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OCTOBER, 1942

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ESPECIAL TECHNICAL SECTION see page 62

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Minicam Photography

TABLE OF CONTENTS FOR OCTOBER, 1942



Articles

- A Filing System That Works.....
- Earl Theisen, Pictorial Story Teller.....
- Help Wanted For A Friend.....
- How to Process Movie Film.....
- Make A High-Low Light Switch.....
- On Your Tintype.....
- Paper Negatives Are Patriotic.....
- Photographic Cocktail Shaker.....
- Shoot Sentimentally.....
- Systematic Exhibiting.....
- Self-Timing Test Strip Printer.....
- Table Top Battle Scenes.....
- The Model Wore Glasses.....
- We Need Photographers.....

60	Being Critical	49
50	Book Reviews	98
28	Camera Club News	87
20	Contest Calendar	79
30	Exhibits To See	77
66	Gadgets, Kinks, and Shortcuts	89
44	Inside Hollywood	78
40	More Fact Than Fancy	94
42	Movies Photographers Should See	76
32	New Products	81
36	Out of the Lab	74
18	Photo Data Sheets	64
12	Salons	77
22	The Last Word	6

Cover by Ralph Haburton, Dayton

NEXT MONTH IN MINICAM . . .

MINICAM'S COVER CONTEST

We had planned to announce the winners of our color cover contest in this issue but we were swamped with entries mailed on the last few days of the contest. In order to give these entries thorough consideration along with the others, winners will be notified by mail and announced in the November issue.

PAUL DORSEY SAYS, "PICTURES ARE PEOPLE"

Paul Dorsey, who has pictured many of the country's big and little people, tells what it takes to be a newsphotographer.

COLOR IS A LANGUAGE

Don Mohler analyzes the five basic principles of color photography in an easy-to-understand article that will help you make better color pictures.

Edited By Fred Knoepfle

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Vol. 6, No. 2

49
90
87
79
89
70
94
76
81
74
64
77
6

"Our
Argoflex
is Ideal
for much
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says

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of Bell Studio, Atchison, Kas.



TECHNICAL DATA

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Paper: Kodabromide
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Paper developer: D-72



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The Last Word

Gremlins?

Sirs:

We are enclosing a photograph made not long ago, directly over our plant here in Burbank. This shot was made of a P-38 attached to a regular fighter squadron. The ship was



estimated to be flying at about 15,000 feet altitude and climbing fast, on a routine flight. The vapor trail remained in the sky for about twenty minutes.

ERIK MILLER.

Lockheed Aircraft Corporation
Burbank, Calif.

Ground observers are frequently puzzled when high speed pursuit planes flying at high altitudes seem to be sky writing. Often this sky trail is taken for a secret message. Aircraft engineers explain this phenomenon as a freezing of the moisture in the exhaust vapors from the plane's motor, leaving behind a trail of iced particles. Air compressed in passing through the plane's supercharger and motor expands upon release into the air after leaving the plane's exhaust. It is the same principle as the air escaping from a bicycle tire, which has a cooling effect due to its release from compression. The low temperature and low pressure of the high altitude causes the moisture particles in the plane's exhaust to freeze. In aerial battles over England high flying fighters often leave similar ice trails behind them.—ED.

Combines

Sirs:

I read with much interest G. A. Watkins' letter in regard to Wes McManigal's left-handed combine. Whether Mr. McManigal printed the "Aerial Pattern" that way or not, here in these Pennsylvania hills we have left-handed combines. You know we have right and left-handed hills, so require right and left-handed combines. Rode a combine here on my own farm doing my wheat crop this year and had a terrible time trying to stay on the thing while tying

(Page 8, please)

Send for this

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bags. And by the way, it was a left-handed one. So now you editors and Mr. McManigal may return those left-handed monkey wrenches.

CHAS. F. STEIGER.

Cogan Station, Pa.

Sirs:

There are many left-hand cuts in use in the middle west and I am sure they have them in the far west too.

PVT. G. S. FOLTZ.

Hendricks Field
 Sebring, Florida



McManigal's shot that started it all

Sirs:

I do not know who to give the horse laugh to, but G. A. Watkins says that he has never seen a combine that cut counter clockwise. I have never seen any that did not cut counter clockwise. The picture of the combine in the August issue shows it making a cut to the left of the picture, which happens to be correct.

LEONARD CHRISTENSEN.

Roxy Theatre
 St. Ansar, Iowa.

Sirs:

Mr. G. A. Watkins was quite correct when he stated that the combine illustration negative had been reversed. We do not believe that any combines of the size shown are made in a left-hand design.

E. F. KREIN.

The Massey-Harris Co.
 Racine, Wisconsin

Sirs:

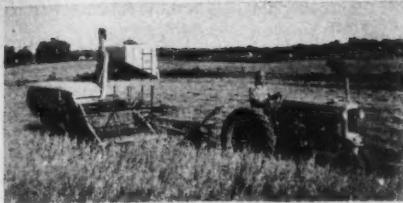
As a matter of curiosity, after reading your letter we checked the Tractor Field Book, which is published by the Farm Implement News, Chicago, Illinois, and find listed therein 13 models of left-hand cut combines and 48 models of right-hand cut combines.

C. M. LARSON.

John Deere Harvester Works
 of Deere & Company
 East Moline, Ill.

Sirs:

We believe you should withhold your awards of left-handed monkey wrenches to your editors and Wes McManigal. They don't deserve them because, as a matter of fact, there are quite a good number of combines with left-hand cut. Why some combines should have a left-hand



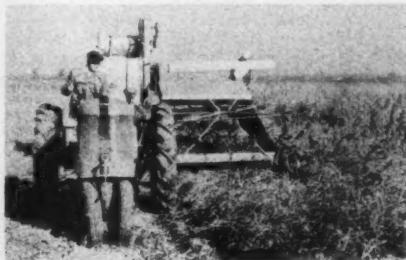
The HARVESTOR is a right-hand cut cut and others right-hand we can't explain, but maybe it's because some farmers have right hand fields and others left hand fields, and the combine designers feel that they must cater to both groups. It so happens that Minneapolis-Moline caters only to the farmers with right hand fields because all our HARVESTOR combines have right-hand cut.

LESTER J. ULRICH.

Minneapolis-Moline Power Implement Co.
Minneapolis, Minn.

Sirs:

The one type combine we are currently making is a left-hand, or counter clockwise. All models we made prior to 1940 were right-hand or clockwise cut. Why the change? Probably the engineer that designed them is the



The HUBER makes a left-hand cut

only one who can answer the question and he is too busy on emergency war work to discuss the subject.

A. W. NEWBY, Vice President.
The Huber Manufacturing Co.
Marion, Ohio

Sirs:

All of our combines are left-hand cut and always have been. There is no question but that the machine in the photograph is one of



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size are right-hand cut, we can offer no reason for it. The farmer travels around the field in the same direction he pulls our combine when he plows, pulls a binder as well as many other field operations. About the only reason for ours being the left-hand cut is due to the fact our original models were mounted upon and powered by the old *Fordson* tractor. It was practical to build a separator unit on the right side. *Gleaner Company*, Independence, Mo.

Sirs:

My congratulations to sharp-eyed G. A. Watkins; he could probably qualify for Army Air Force appointment as interpreter of aerial photography. The strange part of it is that I could not definitely say which side of the machine the reel was on. On checking with a number of farmers who owned the machines, I found most of them had to stop and think before they knew.

The machine in the photograph in question actually has the reel on the left-hand side, is moving counter-clockwise, and the photograph as reproduced is *not* reversed.

Mr. Watkins has brought up an interesting question, which should rank with the classic enquiring which way a pig's tail twists. I be-

lieve there is some of both right and left in both cases.

J. W. McMANIGAL,
Horton, Kansas.

MINICAM editors have learned much about combines in the last month. Some of the scores of letters on the subject are reproduced above. To photographer McManigal our apologies for having accused him falsely of reversing his negative. To reader Watkins, who started the controversy in September MINICAM, we present ample proof that combines can run in any direction—perhaps even up and down.—ED.

Spots

Sirs:

I am having difficulty with my enlargements and information, regarding the correction of them will be greatly appreciated. After developing, purple spots, about the size of a quarter, appear. This has happened with several types of enlarging paper, yet it does not happen on all papers of one lot, and does not show up until it is in the hypo for about three or four minutes. Any information regarding the correction will be greatly appreciated.

P.F.C., LOUIS V. MEDEOT,
Camp Gordon, Ga.

Yellow, brown, or purple spots on prints often are caused by incomplete fixation and

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consist of silver sulphide formed from the silver thiosulphate left in the gelatine. They also may be due to coloration, by light, of the silver chloride or bromide which has not been removed in parts of the coating which was protected from the action of the hypo by air bubbles, or by sticking to other prints during fixation.

Air bells can be eliminated by sliding the prints into baths rather than by dropping them in. Sidewise motion in the bath at the beginning of the fixation will force off any remaining bubbles. Overcrowding in the bath is the cause of prints sticking together. Theoretically, only a single 8x10 print should occupy an 8x10 tray. In actual practice, it may be necessary to fix more than one print at a time, in which case the prints should be kept moving. Don't turn on a strong light until fixation has been under way at least 45 seconds over the entire print surface.—Ed.

Wrong Leg

Sirs:

I beg to differ with the picture accompanying Ralph Steiner's "I Beg to Differ" Framing and Repetition in MINICAM for September. I am quite certain that the original of the famous Victor de Palma shot shows the right leg as the one that was amputated.

JOHN J. FEULLNER.

367 Commercial Ave.,
Cliffside Park, N. J.

Sirs:

In the September copy of MINICAM I noticed Victor de Palma's shot on page 37, which had me wondering. I remembered seeing this shot somewhere else and I immediately ran through some of my old issues of photographic magazines. In one of the magazines I found the shot, except it was printed in the correct manner, while yours is backwards. I am enclosing the shot I found. As you will notice, the policemen on the enclosed print are wearing their badges on their left side, which is the proper way.

EDWIN KRYSINSKI.

8690 Traverse St.,
Detroit, Mich.

To improve the layout of the opening pages of Ralph Steiner's story "Framing and Repetition," page 37 September MINICAM, our art director reversed the print, often done where reading matter is not part of the picture. Readers Feullner and Krysinski are correct, in that the DePalma picture originally shows the right leg amputated.—ED.



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A TYPICAL glamour shot. Now see what happens to the same model with glasses. FIG. 1

THE MODEL WORE
Glasses
PORTRAIT PHOTOGRAPHER'S WATERLOO

By John Hutchins

EDITOR'S NOTE — Two years ago we asked John Hutchins to write an article telling "How to photograph subjects wearing glasses." This is probably the first comprehensive study of this subject ever published, and is the result of two years' study.

LET'S BE FRANK. Eyeglasses are grim! We will all take better pictures if we accept this undeniable fact right at the beginning. It is our Precept I.

Fig. 1 reveals a lovely young lady in a typical glamour shot. Let's put a pair of glasses on our subject (See Fig. 2). She certainly looks different. We have lost a great deal of allure that we had in Fig. 1.

However, let's look at glasses from another angle. Have you ever tried putting glasses on a stupid, vacuous, unattractive individual? They often help. Our subject immediately appears to be more interesting and intelligent. That's it! Glasses are definitely tied up subconsciously with the idea of looking intelligent.

We think of bookish people as intelligent



PROPERLY LIGHTED photographs of models who wear glasses may be interesting, but they do tone down the glamour.

FIG. 2

gent people. This may not be true, but it is a popular belief.

We often associate teachers, scientists, and those who use their eyes a great deal with glasses. Conclusion:—Glasses—intelligence.

Now, just how many average individuals want to look intelligent in a portrait?

Most people wish to look pleasant and sympathetic in their pictures. Above all, pleasant. They don't care how intelligent they may appear, but they don't want to look grim, slightly sour, or too studious.

Precept II. Whenever you photograph anyone wearing glasses, try to get a smiling, or almost smiling expression. (See Fig. 3). At all events, be sure that the corners of the mouth are very slightly lifted in a pleasant expression. Serious expressions are often interesting in char-

acter shots. But remember the average subject does not want to put a serious character shot of himself on the living-room table. He wants to be flattered a little. Your job as a photographer is to please your subject.

Precept III. You must photograph every subject who wears glasses all of the time—wearing those glasses. Don't take them off for a portrait. Henry's friends associate glasses with him. They won't like a portrait if he doesn't have them on. His family might like such a picture. Henry's mother may even hate those glasses. His friends, however, have always seen him wearing glasses.

Now for some lighting rules:

Rule 1:

Deep-set eyes are extremely difficult to illuminate when the subject wears glasses.



A SMILE eliminates the grim look that glasses give many subjects. The corners of the mouth should always be lifted slightly except in character studies. FIG. 9

See Fig. 4. Here we are using a single forty-five degree angle spot-light as a main light source. Notice the eyes. They are absolutely opaque. This gives us,

Rule 2:

The main light source must adequately light the eyes. Fig. 5 shows an attempt to fill in these shadows with the secondary flood-light. The eyes are still too dark. The secondary light cannot do this job. If you bring it up too close to the subject you will get a lot of secondary shadows and ruin the portrait. This brings us to,

Rule 3:

The main light source must be lowered from the typical forty-five degree angle in order to illuminate deep-set eyes. See Fig. 6. How far should it be lowered? So that the eye sockets are illuminated as much as possible with this light. What happens if you lower either the main light source or secondary source too far in order to illuminate the eyes? We come to,

Rule 4:

The reflections or glare in eye-glasses is caused by having either front light too low. See Fig. 7. If the lights are low, moving them to either side of the subject will not eliminate these reflections.

A professional photographer can etch off these reflection high-lights on the negative so that they will not show on the print. Many times the shadows in deep-set eyes are merely filled in by retouching, in commercial studios. This article is written for the small camera user who cannot retouch his negatives.

The big problem now is getting rid of these reflections. Let us try diffusing the main light source with tracing paper.

Rule 5:

Diffusing either front light only spreads and increases the glare. See Fig. 8. The larger the light source the larger the reflection. Someone suggests that we move both front lights to the right and left, away out to the sides of the subject. See Fig. 9.

Rule 6:

Double side lighting causes black eyes in portraiture. True, in Fig. 9, we have very little eye-glass reflection.

There is not enough light in the eyes. This type of lighting always mangles the anatomical construction of a face with or without glasses.

Now, here comes the secret of good eye-glass portraits. In Fig. 10, taken with a single front light, there are no reflections. Yet, the same set-up may cause an effect that is ghastly. What causes this great difference? Answer: The eye-glasses are of a different type. In Fig. 10 the subject is wearing almost flat field glasses. The angle of the convex type of glass "picks up" flares and doubles the difficulty of the photographer's problem.

Rule 7:

Glasses equipped with convex lenses are the most difficult type to photograph. It makes a lot of difference to the photographer just what type of eye-glasses his subject wears. It is impossible to lower either front light very far when the lenses are convex. Glasses with a flat field will not "pick up" flares when the lights are somewhat lowered. It is the curve of the eye-glass that causes the greatest amount of trouble.

We have now arrived at some definite conclusions:

1. Lower the main light source and secondary light just enough to light the eye sockets adequately and still avoid reflections. You will find that it is possible with a little patience to find this exact spot with most eye-glasses.

2. It is sometimes impossible to photograph subjects with deep-set eyes wearing sharply convex lenses without getting some reflections. These subjects should change their glasses for a portrait sitting. I always keep three pairs of nearly flat field glasses readily available as props. (Small, medium and large sizes). These glasses are optically ground and only slightly convex.

Extremely convex lenses make the eyes appear smaller than without glasses.

Here is a point in favor of your flat field glasses: They do not shrink the pupils and eye-balls. The subject naturally will not be able to see as well with almost flat field glasses. I have found the expression



LIGHTED FROM a 45 degree angle, this shot shows nothing but the deep-set eye sockets.
FIG. 4



A SECONDARY flood-light was used to fill in the eye shadows, and not too successfully.
FIG. 5

in the
more
the s
the e
you a
open
tingu
room

LOWERING THE main light source to illuminate the deep-set eyes solves the problem of lighting.

FIG. 6

IF THE light source is lowered too much the "Ol Debil" reflection pops up.

FIG. 7





DIFFUSING THE light sources only serves to spread out the reflections, and is no help at all

FIG. 8



DOUBLE SIDE lighting, useful in other fields, is not the answer in portraits; look at those black eyes.

FIG. 9

in the eyes usually is much softer and more appealing by this change. Caution the subject to close the eyes just before the exposure for a few seconds. When you are all ready to shoot, the sitter should open the eyes and not attempt to distinguish or focus on any object in the room.

This procedure will avoid all annoyance of light reflections.

3. It is possible to photograph any subject wearing eye-glasses without lenses. The absence of the glass will not be detectable in soft-focus portraiture. In needle-sharp photography you will almost always notice the difference immediately. These empty frames will look funny in the finished print. Another objection to this method is that without some slight curve of an actual lens in front of the eye, the habitual wearer looks strange and unnatural. The eyes will appear slightly glassy—fishy looking. Try it yourself.

4. Beware of any type of tinted glasses. They hold back light penetration (i. e. Crooks lenses).

All eye-glass lenses offer some resistance

(Page 86, please)

MAYBE IT'S the glasses. If the subject wears convex lenses you'll need to substitute a glasses with flat field lenses.

FIG. 10





GERMAN NIGHT RAID against enemy artillery as staged by Platt W. Dockery.

IF you are a swivel-chair general, you probably would like to depict some of the action taking place every day.

Through the medium of photography you can record the strategic moves in the same manner as Platt W. Dockery, an amateur photographer of Grand Rapids, Michigan, who made this unusual series of table-top war photographs.

Mr. Dockery is a close student of military affairs. The soldier-models have been carefully selected for accuracy and for their photogenic qualities. They are made of plaster while the gun models are made of metal and can be purchased in the toy departments of almost any large store.

"The stage" he says, "is plaster of paris on cotton, newspapers, resting either on cardboard or plywood. The surface was stippled when still wet and pliable. working some dry parsley into it for brush and bush effects. When dried, the setting is stained with stale coffee and a daub of paint.

"The trees are either twigs or parsley stems stiffened with very fine wire and

then rolled in plaster of paris and painted.

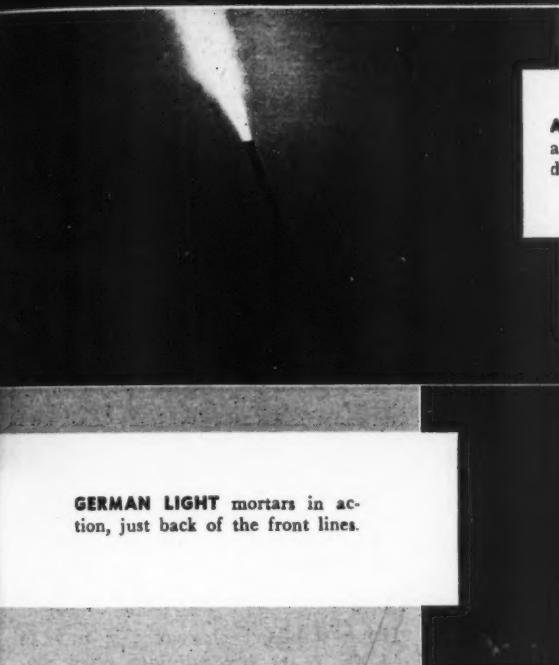
"The ruined buildings are plaster of paris, carved when dry and painted. The sand-bags are the little ones purchased in any of the dime stores, stained with coffee and mud.

"Once the stage is constructed, it takes comparatively little time to change the details, such as shifting the buildings from one spot to another and moving trees, etc. The barbed wire shown in the pictures is plain wire strung on match-sticks painted black and brown, with blobs of solder to imitate the barbs.

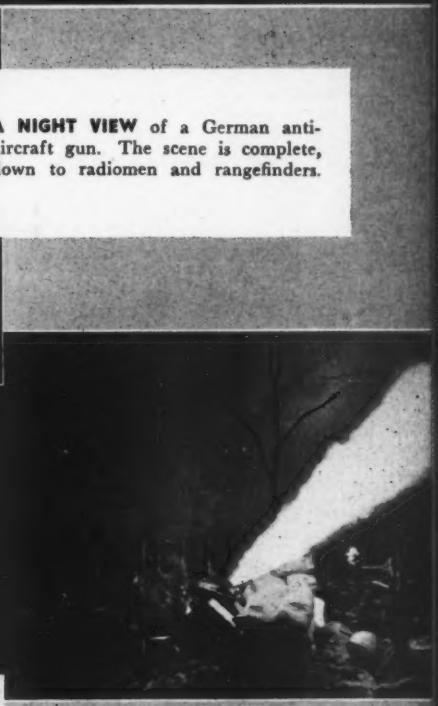
"Where explosions are shown in the photographs, they are the only light used in the pictures. The mixture for the explosives is flash-powder, resin and gunpowder in minute quantities. Otherwise the lighting for picture that show no guns or mortars in the act of firing is a single photo-flood, about thirty inches above the scene, in an ordinary reflector, undiffused to give the impression of sunlight. The exposures were based on Weston readings, for the stop used, and depended on the depth of focus required. **END**

TOP BATTLE SCENES

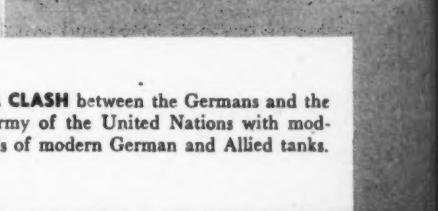
BY POWELL GULICK



A NIGHT VIEW of a German anti-aircraft gun. The scene is complete, down to radiomen and rangefinders.



GERMAN LIGHT mortars in action, just back of the front lines.



A CLASH between the Germans and the army of the United Nations with models of modern German and Allied tanks.



RUSSIAN counter batteries in action depicting the siege of Stalingrad. The flash was placed so it silhouetted the gunners.

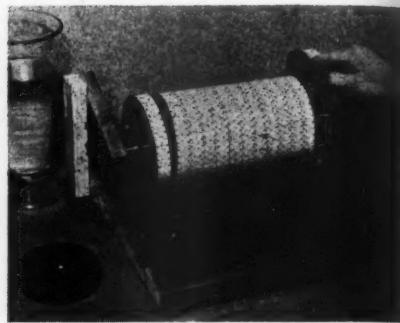


HOW TO PROCESS M

SIMPLE EQUIPMENT FOR HOME DEVELOPING OF TITLE AND TEST STRIPS



WINDING FILM on this home made reel is a simple matter. The reel shown will accomodate about fifteen feet of 16mm movie film.



AFTER THE FILM is developed, bleached, and cleared, the white light may be turned on. The film is still completely white.

ELABORATE EQUIPMENT isn't necessary for the home processing of movie film. Here is a set-up that was "thrown together" from a few odd pieces of wood and metal, and used for developing strips of 16mm. film for titles and tests.

The reel shown consists of two monometal disks joined by 10 pieces of 3/16" brass rod whose ends pass through holes in the disks and are riveted securely. Overall dimensions of the reel are: Diameter, 5"; length, 9". A 3/16" brass rod 11" long runs through the center and forms an axle on which the reel rests and rotates. In place of metal, plastic or even wood that is waterproofed by boiling in paraffin may be used. A reel of the size given will hold about 15 feet of 16mm. film. For a 25-foot reel, the diameter should be increased to 8". A reel 9" long fits an 8x10 tray nicely, while an 11x14 tray will accommodate a reel up to 13" long.

Using standard photographic trays to hold the processing solutions saves considerable work. The tray rests on a wooden platform. Two uprights project in the back, each supporting a notched arm that extends out over the tray and holds the reel. The axle of the reel rests in sockets made by drilling a hole through a block of wood and then splitting the block in half. Adjust the position of the supporting arm so that the reel clears the bottom of the tray by about $\frac{1}{8}$ ", and clean the edge by a full inch. With a small clearance, a minimum of developer or other solution is required. Usually

16 oz. of solution is enough for an 8x10 tray; and the tray can be tipped to make the solution deeper.

Place the tray beneath the wooden arms before lowering the reel into position. It is a simple matter to keep the reel turning by touching one end with the fingers.

To develop a strip of film as a negative, proceed as for any other negative. Posi-

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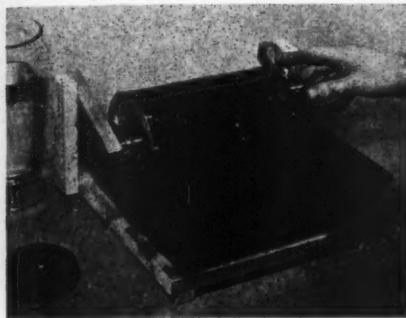
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follow

MOVIE FILM . . .



WHEN THE FILM is re-developed, the areas that were white after the first bleaching will turn black, as all the silver salts are developed.



THE UPRIGHT SUPPORTS the arm that extends over the tray and holds the reel. The axle of the reel rests in sockets which serve as bearings.

tive film can be developed in D-72 or a standard positive formula, but negative stock should be developed in a fine-grain developer. It is no more difficult to reverse a strip of film than to develop it as a straight negative from which a positive print must be made. In brief, one system of film-reversal is as follows:

1. Develop in any suitable developer. For positive film, Eastman D-16 is suggested.
2. Rinse for 1 to 2 minutes in clear water.

3. Bleach for about 4 minutes in the following :

Water	.....	16 oz.
Potassium bichromate	.....	35 grains
Concentrated sulphuric acid	.....	70 minimis (drops)

(Always add acid to water, *not* water to acid.)

4. Rinse for 2 minutes in water.
5. Clear for about 1 minute in the following :

Water	.....	16 oz.
Sodium bisulphite or potassium		
metabisulphite	.....	75 grains

6. Rinse for 3 minutes in water.
7. Turn on white light and expose film to it long enough to affect all remaining undeveloped silver salt. Two minutes at a distance of 18" from a 100-watt lamp is about right. Keep the film moving for uniform exposure.

8. Place film again in the developer used in Step 1, for about 2 minutes, or long enough to reduce all undeveloped silver salt. Fix in a standard acid hypo bath or in a chrome alum fixer. Wash $\frac{1}{2}$ hour in running water and dry. Run the film between moist viscose sponges just before drying, to clean it.

9. If the film is too dense for projection, reduce it in the bleach used in Step 3, preferably diluted with an equal volume of water; clear in the bisulphite bath, wash, and dry. **END**

"WE NEED PH



PHOTOGRAPHIC SCHOOLS provide models and the type of cameras that top-notch professionals use.

Photo, N. Y. Institute

By MARJORIE FISHBEIN

PAUL JACKSON, the attendant in the Skyo Filling Station, who discovered a rare Stradivarius while rummaging in his aunt's attic, has been signed by Columbia Broadcasts for a series of Bach violin sonata recitals."

Did you see this story in the newspapers of the country last week?

No? Neither did we!

And neither has the possession of a fine camera nor wishing ever made a top-flight photographer. Of course, there have been artists who have turned to photography with a head start because they knew the principles of composition, dynamic symmetry and color harmony. But the leaders in photography, like those in every

other field, got to the top through hard work and study.

Credit for getting interested young photographers started on the path to success is due the excellent photographic schools in every part of the country, for

many of the students of a year ago are now making the pictures that tell the story of each news-packed day. Some schools are for those students who can pack up their bag and come to them; others specialize in lessons by mail. Both have their place in training photographers — and photographers are needed badly today.

"We Need Photographers," is the cry that is growing louder every day. Young

PHOTOGRAPHERS"



ENLARGING TECHNIQUE is taught with precision equipment; here an instructor demonstrates tilted easel printing.

Photo, School of Modern Photography

THE STUDENT absorbs theory as he does the actual work in the darkroom. Students are urged to explore every possible procedure, rather than memorize any one method.

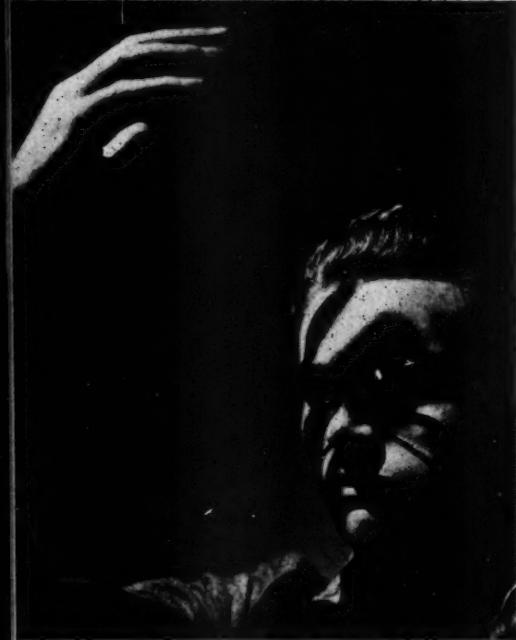
Photo, School of Modern Photography





CLASS PROGRESS need not limit the ambitious student. Experimentation is always encouraged.

Photo, School of Design In Chicago



LIGHT is the basic tool of the photographer. The student learns how to use it for exciting new effects.

Photo, Halberstadt, School Of Design In Chicago



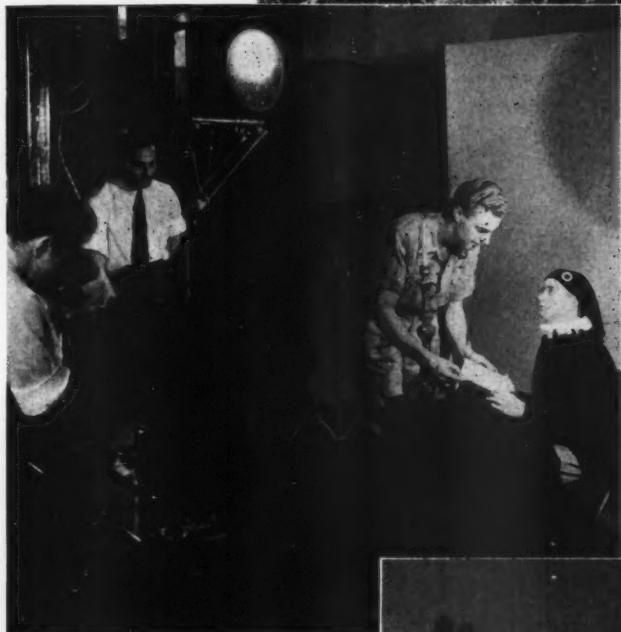
DESIGN in common objects. The pattern of a broken pane of glass was used for this shot.

Photo, Keck, School Of Design In Chicago



AN OUTDOOR fashion shot, in the casual style popular in women's magazines.

Photo, School of Modern Photography



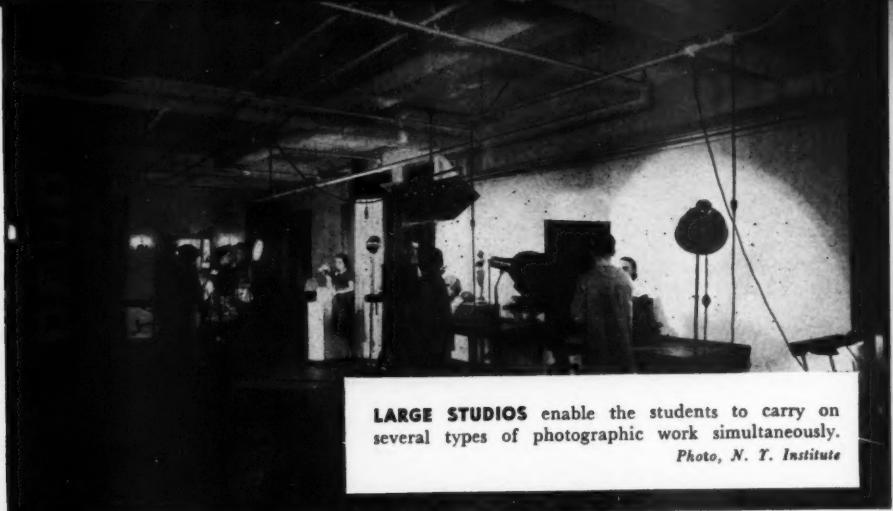
JOHN HUTCHINS, see page 12, coaches a model while three students prepare to shoot.

Photo, School of Modern Photography

INDIVIDUAL INSTRUCTION in highly technical subjects save the photographic student costly mistakes. This is the carbro color print process.

Photo, School of Modern Photography





LARGE STUDIOS enable the students to carry on several types of photographic work simultaneously.

Photo, N. Y. Institute

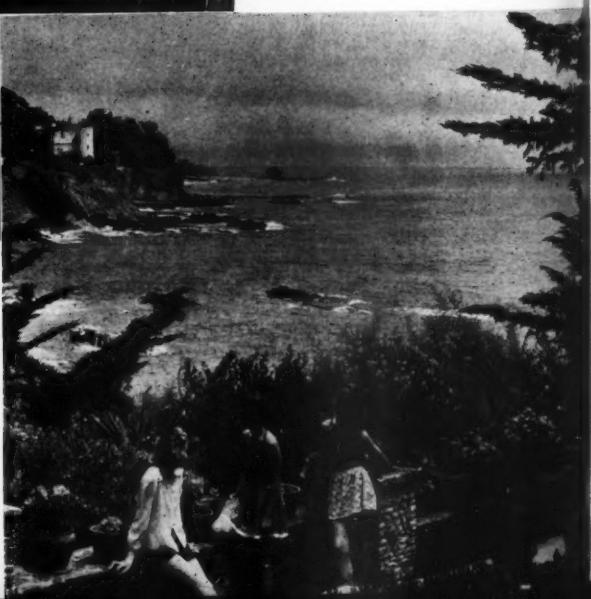


WILLIAM MORTENSEN gives personal criticism at his Laguna Beach, California, School.

Photo, Mortensen School

SCENE FROM the window of the Mortensen School. Most schools have many nearby pictorial possibilities.

Photo, Mortensen School



people, and women especially, must step into the vacancies left by the "regulars" going into the armed services, government agencies and war material production factories. Already a number of newspapers in the east have put young women behind their Speed Graphics. Mary Morris of *P M*, New York daily, has proved that a woman photo-journalist can be capable, imaginative, and get the woman's angle into the coverage of news stories. Technically her work is tops.

When an Army Air Corps Officer says, "We need civilian employees who know photography"—when a machine tool manufacturer says that photographers are needed at once to help speed up production—a studio asks for technicians to help with necessary civilian and war photographs—then we must seriously consider how this shortage of trained photographers will be met. The logical source of supply for these jobs is from the photographic schools.

The photographic schools are equipped to train photographers quickly and directly so they will avoid the mistakes and by-paths on which the self-taught photographer invariably loses time.

For the men who intend to go into the armed services the training of photographic schools has special benefits, for many trained photographers have won their assignments in photographic branches of the services soon after enlistment or induction. Naturally, these jobs carry higher ratings and pay.

The photographic student can expect long hours and a concentrated curriculum in war-time photographic courses, for whatever else photography may be, she is stern in her demands of time and attention to many details.

Starting with the ancestors of the modern precision camera the student soon finds himself in the exciting world of lenses, shutters and camera paraphernalia. He learns to make pictures on expensive cameras and on cheap ones that can be used in a pinch. He discovers how to paint with light and the use of filters and

their effect on the modern film emulsions. Professionally equipped darkrooms with printers, enlargers, and chemical apparatus are soon conquered and an integral part of the fledgling photographer's kit of tools. Work with models is attempted after the still life everyday subjects can be pictured successfully. Some courses lead to color work and other specialized types of photography.

A number of schools have installed motion picture departments for work with this new art, training in a branch of photography which is essential to the war effort, but which is exceedingly hard to get outside of Hollywood.

The Editors of *MINICAM* present here the Schools of Photography located from coast to coast. These are the schools that will send their students out as skilled workers for civilian photography or to help in the War effort, to see it through. If you are interested in photography, write them directly. Or if you have a special problem, the Editors will be glad to advise you.

Academy of Photography, 115 East 23rd Street, New York City.

American School of Photography, 1315 South Michigan Ave., Chicago, Ill.

Art Center School, 2544 W. Seventh Street, Los Angeles, Calif.

Aurora School of Photography and Photo-Engraving, Aurora, Missouri.

Clarence H. White School of Photography, 460 West 144th Street, New York City.

Cleveland School of Photography, 264 Hanna Building, Cleveland, Ohio.

New York Institute of Photography, 10 West 33rd Street, New York City.

Rabinovitch School and Workshop of Art Photography, 40 West 56th Street, New York City.

Ray Schools, 116 S. Michigan Blvd., Chicago, Ill.

School Of Design In Chicago, 247-257 East Ontario Street, Chicago, Ill.

School of Modern Photography, 136 East 57th St., New York City.

School of the Art Institute of Chicago, Chicago, Ill.

HELP WANTED

... for a FRIEND

DOES it mean anything to you if the camera dealer in your vicinity goes out of business? Perhaps you know him as a friend, for many photo fans have grown to look on their local camera dealer as a counsellor, for whose welfare they have a warm and friendly feeling. But if it's just a strictly business acquaintance, your dealer is a convenient fellow. Every time you need a film, or a pound of hypo, you may have to write to New York or Chicago or San Francisco if your local dealer closes his doors. No more last-minute purchases of a dozen Kodabromide 8x10s when you suddenly have spare time for the comfort of being alone and busy in your darkroom.

The photographic dealer is in trouble. Here's a letter from one of them, a "big fellow," at that:

"... and it looks to me as if there's nothing for me to do. The whole problem is being decided for us, and we know in just what manner, by each tick of the clock.

"I own three stores. I have enough merchandise in stock to last each store five months. Aside from a few odds and ends, and film and paper and bulbs, I can't buy anything at all from the manufacturers.

"I plan to merge my three stores into one, and thus have enough stock to last 15 months, for one store. Meanwhile, because of my friendship in the field, because of the years I have been in it, because I have always paid my bills and everybody knows me, I'll be able to grub up a few cameras here, a gross of enlargers there, and maybe a dozen meters once in a while. That way, in fifteen months, I'll be able to buy enough stock to last me,

perhaps, two months more. Then I'm washed. I've got seventeen months to live, and each sale my girls ring up is one minute less I have to stay in business. Also, my own income will be cut 60% since obviously I can't make as much on one store as I did on three, especially since volume is the one thing that can ruin me.

"So much for me . . . I'll be around for another seventeen months, maybe eighteen. But I got friends in this business, men I've known for thirty years. You know I job merchandise all over the country, and most of these dealers are little fellows. They didn't have eighty, ninety or a hundred thousand dollars to put into merchandise. Maybe they had five thousand dollars cash, so they put it into merchandise. How long can that last them, even including the additional merchandise they can buy? Three months—four months—five months? After that what—? Must they all fail?

"Then when it all starts up again in two years or three years, who will be our new dealers?

"Get rich quick, guys! What can we do to keep the reliable dealer going?"

There are about 650 photographic dealers left in the country whose camera departments can be found without a guide. About 600 of these have less than six months to live unless photographic fans want to keep them alive. The job can be done, and it is purely an American job, the sort that we can do, and do well.

The readers of **MINICAM PHOTOGRAPHY** number 80,000. Here is the greatest untapped well of fine photographic equipment in the land. Most of the readers of this magazine own not one camera, or one enlarger, or one meter, but a colos-

sal assortment of varied and sundry photographic merchandise.

Would you, as one of our readers, be willing to sell your dealer, the equipment that you aren't using? There are several reasons for doing so:

1. To help the dealer stay alive, so that when new photographic merchandise is made, you will be able to trade with a man you know.
2. To help the other fellow, who doesn't own photographic equipment, enjoy photography now.
3. For cash, to buy War Bonds.

Within a year after the war is over, almost all the photographic merchandise we own will be outdated by inventions which right now are enabling the U. S. Signal Corps photo-squads to take and develop pictures through means so radically different from today's methods that the whole principle of shutter, film, and chemical action may be wiped out as the cargo plane will banish ocean-borne freight.

The reasons for selling photographic merchandise that you aren't using to your photographic dealer are all good. It is true that what you don't sell, won't be worth its weight in scrap metal in five years. Today you have a good chance of actually getting more than you paid for it; especially if you have a Weston, Rollei, or Leica, or fine Kodak that you bought in 1939-40. Few of us could ask for a better break in behalf of merchandise which we are not actually using.

Here are three ways to sell photographic merchandise:

1. Take what you have to your dealer.
2. Send us a description and we will put you in touch with a large national mail order dealer, or with a responsible dealer in your state.
3. Advertise what you have for sale through the classified columns of MINICAM PHOTOGRAPHY and thus call it to the attention of all dealers.

Write us using the form in the next column, if you desire to follow Step 2:

MINICAM PHOTOGRAPHY

22 East 12th Street
Cincinnati, Ohio

I have a still camera

movie camera

meter

enlarger

and may desire to sell it. It's condition is

excellent good needs minor repairs

needs overhauling.

Put me in touch with a dealer. This places me under no obligation to sell.

Name

Address

City, State

Use the following form if you desire
Step 3:

MINICAM PHOTOGRAPHY

22 East 12th Street
Cincinnati, Ohio

I desire to place my classified advertisement before the 80,000 readers of MINICAM PHOTOGRAPHY and 650 photographic dealers. Here is my ad:

.....
.....
.....

I am enclosing check at the rate of 10 cents for each word, including each word in the name and address.

Note: The cost of a full page advertisement in MINICAM PHOTOGRAPHY is \$260.00. At ten cents a word, the net return of a full page of classified advertising is \$110.00. Thus, for this purpose it is apparent that rates have been materially reduced.

Name

Address

City, State

MAKE A "HIGH-LOW" LIGHT SWITCH



THE SUBJECT throws the switch into "High" when ready for the picture.



By VICTOR H. WASSON

AFTER TONS of literature had been printed, describing hi-lo light systems, and endless auto dimmer switches had been torn from their moorings, and dozens of formidable looking control boxes built to accomplish the result, it remained for a radio amateur to point the way with this compact control.

Of course, hi-lo switches merely change the circuit from a series circuit (in which the lamps burn with only a portion of their brilliance) to the conventional parallel circuit (in which each lamp receives the benefit of the full 110 V. house current).

This three lamp circuit is built right into a three outlet extension receptacle available in any electric supply store for about a quarter. The switch is a double pole, single throw of the toggle type shown in the illustrations. A length of cord and four bolts completes your materials list.

The first step is to remove the back of the receptacle and pull out the metal contact clips in the receptacle, as shown in Fig. 1. These clips are cut in half so that

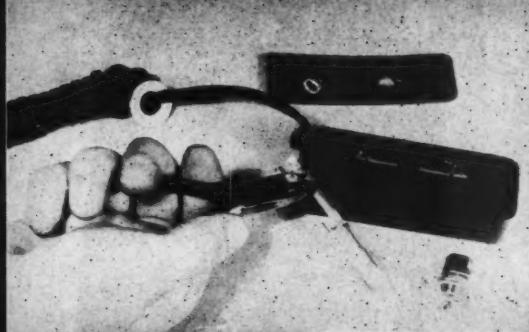
one side will have two contacts on one end and a single contact at the other end. The other clip is cut so that these ends are reversed, the single contact end being alongside the double contact end, etc. The method of cutting these contact clips is shown in Fig. 2.

Little need be said about wiring except that the photo-drawing (Fig. 3) should be followed closely and all joints soldered for safety and good contact. The switch is mounted in the end of the receptacle by enlarging the hole originally used to admit a lamp cord, and is held securely in place by tightening the retaining ring supplied with it.

The contact clips are returned to their original positions after wiring and held in place by bolts run clear through the bakelite casing of the receptacle, since it is practically impossible to reset the original keys that held them in place. These bolts are seen (indicated by pencil) in Fig. 4, showing the open side of the receptacle after wiring. The heads of the bolts should be countersunk and covered with sealing wax to prevent shocks.

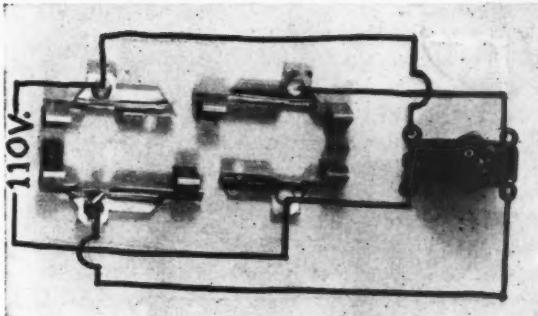
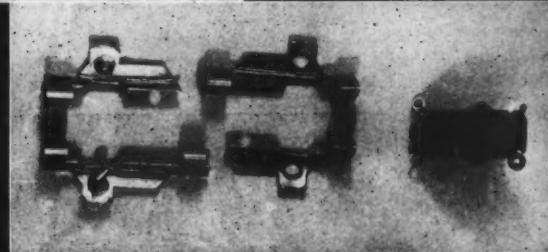
110V

FOUR
points
place
contact



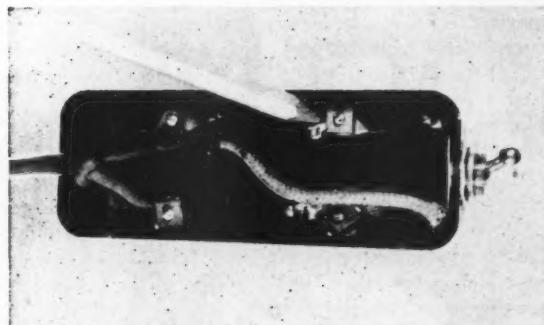
THE METAL contact clips are removed from the receptacle of a three outlet extension cord—the first step in converting it into a Hi-Lo switch. FIG. 1

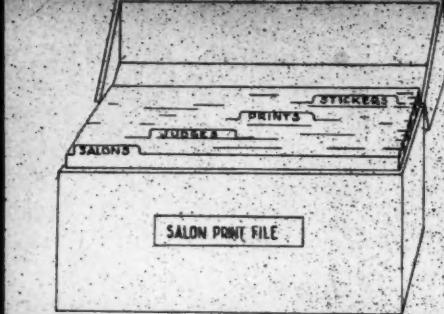
THE CONTACT clips are cut in half as shown in the picture at the right. The double pole, single throw switch is shown at the extreme right. FIG. 2



THE PHOTO-DRAWING at the left shows how the connections are made. Solder these for safety and good contact as indicated on the diagram. FIG. 3

FOUR STOVE BOLTS, at points indicated by pencil, replace the keys that held the contact clips in place. FIG. 4





A COMPLETE AND easily accessible file can be kept in a standard file case or a box and tabulated as shown.

FIG. 1

Mr. G. B.	2nd International - 46 May 2, Kalamazoo, Mich.	2/3 & 7/3
1. Rocky Landscape	Accepted	
2. Snow Scene		
3. Portrait of an Old Man		
4. Nude Study	Rejected	
Jury	Salon Rating	
1. John Doe	Superior exhibition of landscape	
2. Peter Smith		
3. Paul Jones		
Prints sent - 6/2/41	Prints returned - 7/6/41	

CARDS ARE FILED chronologically and give an instant check-up on any salon to which prints were submitted.

FIG. 2

SYSTEMATIC EXHIBITING

by Don D. Nibbelink

TO THE GENUINE dyed-in-the-hypo camera fan there is no thrill that quite equals the arrival of that elusive slip of paper that announces, "Your print, 'Mystery of Life' has been accepted and hung in the 10th Annual Oskosh Salon." Winning a major prize or having a print reproduced in a salon catalogue has been known to cause high blood pressure for several hours. If you want to collect these colorful stickers on the back of your prints here is a systematic program which has been used with success.

It is important to know the market to be sold, in this case the salon. One acquires this knowledge largely from experience. Start with exhibits which are best suited to your ability, and as it grows, branch out in more advanced types of exhibition work. Specifically, this would mean bringing pictures to camera clubs and inviting the members' constructive criticism. As you gain experience and confidence in your work, enter prints in local contests. Then ask contributor friends in which salons they would recommend starting an exhibition career.

Do not be discouraged if you can not easily transform every photographic attempt into a successful exhibition shot, for excellent photography requires both patience and practice, as does the acquisition of any other skill. Stick with exhibiting until you have a few successes. From then on the rest is easy. Even if one salon doesn't accept a picture, another equally good one may hang it. It is interesting to note that juries base as much as 50% on aesthetic appeal, a purely personal factor.

For salon pictures, as in all creative work, a new idea counts. The manner of expression must be your own even though the majority of pictures fall into definite subject classifications which have been not only photographed, but painted and drawn over and over again. In fact, the ideas for many of the so-called "best" photographs were taken directly from famous paintings. It is perfectly permissible to borrow picture ideas from other pictures if it will help you to develop your own technique in choosing subject material and subsequent treatment. It is essential, though, that you choose the particular

Doe, John (Judge's Name)	
Accepted	Rejected
Rocky Landscape - 21"	Nude Study - 21"
Snow Scene - 21"	
Portrait of an Old Man - 21"	
(Card Number ofサロン)	

JUDGES' CARDS ARE filed alphabetically. If the name of the jurist Doe appears as a judge, it would be better not to send, "Nude Study" to that salon.

FIG. 3

Rocky Landscape (Name of Print) Prints (Check Marks)	
Accepted	Rejected
(Card numbers of prints accepted)	(Card numbers of prints rejected)
7, 13, 12, 15, 21"	1, 11
Special Awards (Catalogue Number of Magazine Reprint) If Selected at 1st Viewing	

SALON TITLE CARDS give the case history of each print. The numbers indicate the number of the salon card, illustrated at the left, above.

FIG. 4



MARINE SCENES are second only to landscapes and nature pictures in salon acceptability.



FRIENDS AND CAMERA club members make a good preliminary jury for prints which may have salon possibilities.

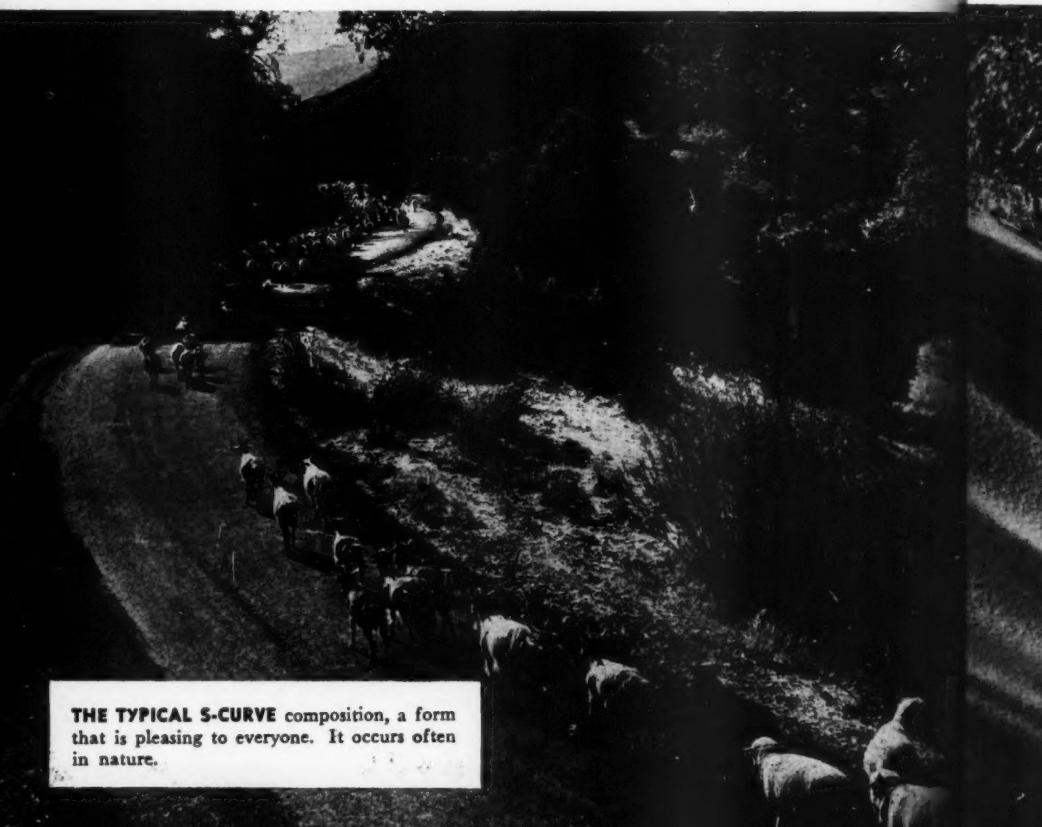
type of subject matter in which you are most interested. Those are the subjects which you will portray best.

To help the new exhibitor, the following types of subjects are listed in the order of their general likelihood of acceptance. It is best to keep in mind that this is a general classification only and outstanding prints in any one of the groups may prove to be an exception. In a descending order of percentage values, these groups are as follows:

Landscapes and Nature
Marines
Portraits
Patterns
Still Life
Nudes
Industrials.

Be on the safe side as far as possible. Submit subjects of the first three types

THE TYPICAL S-CURVE composition, a form that is pleasing to everyone. It occurs often in nature.



until you are sure about the others.

One thing that all judges (or anyone else, for that matter) like to see in a photograph is an interesting story, told preferably by emotional suggestion. Juries are not interested in the time, trouble or expense incurred in making the print.

A snapshot of the neighbor's children produces what the parents think is the best picture that was ever taken of them. The photograph would probably be a straight record print, entirely lacking in the important factor of story-telling. One must not be misled by such a print, whose rightful place is only on top of the piano—compared with a pictorial study which is readily acceptable in salons. If the same children were to be photographed doing something which would eliminate the static quality of the backyard shot and introduce a story-telling interest to the picture, it

would have more universal appeal. When a picture can be identified by one particular person, it is a portrait and not salon material; if the person within the picture becomes a symbol understood by all persons, and identity is "lost," then it contains the germ of art.

Pick simple things to photograph. Choose them for the carrying power that they can give the final print. For the most part, successful pictorial studies are beautiful pictures using standard compositions. They usually have the simplest of lines, which form areas of black tones rather than a maze of confusing details. This increases the feeling that the prints are good even when viewed at a distance.

(Page 96, please)

SNOWSCAPES GAIN beauty when toned blue. The popular gold chloride blue toner formula is given on page 74.



for better prints . . . for wartime economy

MAKE A SELF-TIMING TEST

TEXT AND ILLUSTRATIONS BY VICTOR H. WASSON

MANY A PHOTOGRAPHER, frugal enough to overwork his hypo, is foolhardy enough to put 11x14 sheets of paper at eleven cents apiece on the easel and guess at the exposure. By either forcing in the developer or jerking into the short stop, he hopes to compensate for exposure errors.

The real way to go at making a test strip is to produce a graduated strip that will show all the possible exposures from a useless under-exposure to a rank over-exposure. Some systems worked out for this require paper sizes that can be utilized for other purposes than test strips. This system uses narrow strips cut from 5x7's. The materials needed to construct the printer are easily obtained.

Figure 4 shows how a piece of metal 18"x6" is bent into shape to form a channel and a place to mount a self-starting electric clock as seen in Figure 5.

Bend up a cradle from coat hanger wire as seen in Figure 6. This cradle is soldered to the galvanized base as seen in Figure 7. Next lay the celluloid ruler in the metal trough with the one-inch end near the clock. Tacks driven through from the bottom and riveted over will hold it in place. Place the tacks near the outside edge so that the opposite edge may be raised slightly. See Figure 8.

From $\frac{1}{4}$ " or $\frac{3}{8}$ " plywood saw out a disc $3\frac{3}{4}$ " in diameter, see Figure 9. A small crank is bent from coat hanger wire and driven through the center of the disc. The disc is then wrapped with a piece of thin cardboard $1\frac{3}{8}$ " wide which is tacked in place thus forming a drum. To this drum tack an 18" length of heavy black ribbon $1\frac{3}{8}$ " wide as in Fig. 10.

The device is completed by mounting the drum just described on its cradle so that the sweep second hand of the clock engages the crank on the end of the drum shaft. This places the drum in a position so that the ribbon lies along the channel, beside the ruler. See Figure 10.

To make a test strip the sensitized paper is placed in the channel with one end opposite the one-inch mark on the ruler. Raise the ruler slightly and slide the paper under it so that the numerals are visible against it. See Figure 11. Draw the ribbon out so that the paper is protected from enlarger light. Figure 12 shows how the ribbon moves across the paper, causing a long exposure at the high number end and a progressively shorter one as the ribbon moves down the strip. The drum is 12" in circumference. Therefore, powered by the clock hand the ribbon will travel 12" in one minute, or one inch in five seconds. Each inch on the ruler is worth five seconds of exposure. Of course, the exposure at one end of the strip will be so long as to cause the strip to develop out too dark. The other end of the strip will more than likely be too light. But, somewhere between the one and seven inch marks will be the ideal exposure. A longer test strip would show a greater range of possibilities but if the worker can't guess his exposure within thirty-five seconds (seven inches at five seconds per inch) he's really in for a long apprenticeship.

If, because of great density, you feel that your negative will require longer than thirty-five seconds exposure, the strip should be pre-exposed for a sufficient length of time for correct exposure.

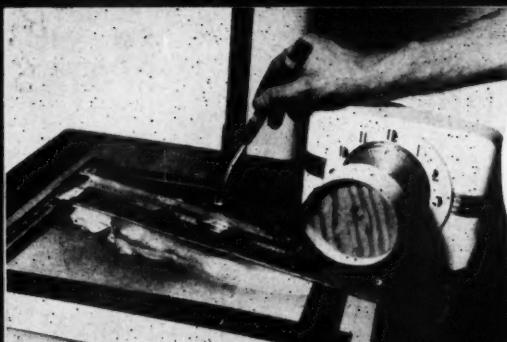
STRIP PRINTER

READING THE test strips from left to right, we can see that the first one is under-exposed; the total test time of 35 seconds was insufficient. The next test strip was given a 10 second pre-exposure, and the test run; the top of the strip shows approximately the correct exposure. The third strip was given a 20 second pre-exposure; the correct densities are now in the center of the scale, and exposures on either side may be studied.

FIG. 1

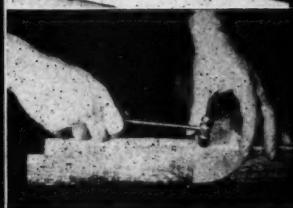


MADE FROM the timing indicated by the calibrated test strips, above, this print has the desired tones. The sky has been darkened and the clouds, barely visible on the over-exposed negative, have been printed effectively. FIG. 2



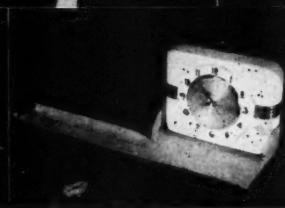
THE TEST STRIP printer in use. A lucite medical lamp (available at 5 & 10's) is useful for flashing the numbers through the celluloid scale.

FIG. 3



THE METAL printer base is shaped over a wood block to fit the clock.

FIG. 4



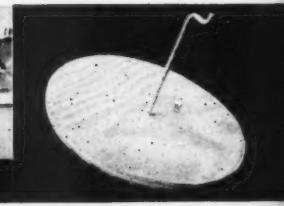
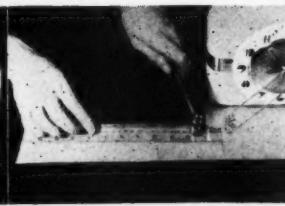
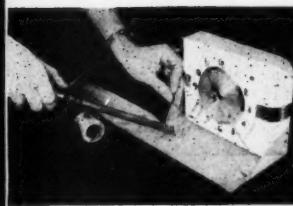
A SELF STARTING electric clock, with a second hand, fastened with screws.

FIG. 5



A CRADLE for the plywood drum is bent into shape from a coat hanger.

FIG. 6



THE CRADLE is soldered to the base so it lines up with the clock shaft.

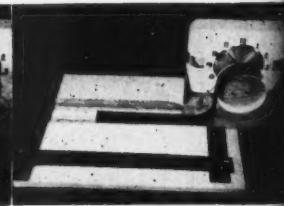
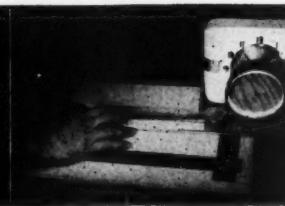
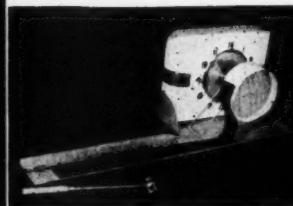
FIG. 7

A TRANSPARENT ruler is fastened with the one inch mark near the clock.

FIG. 8

THE PLYWOOD DRUM is mounted on a wire axle. A crank is bent at end.

FIG. 9



THE DRUM is placed so that the crank engages the clock second hand.

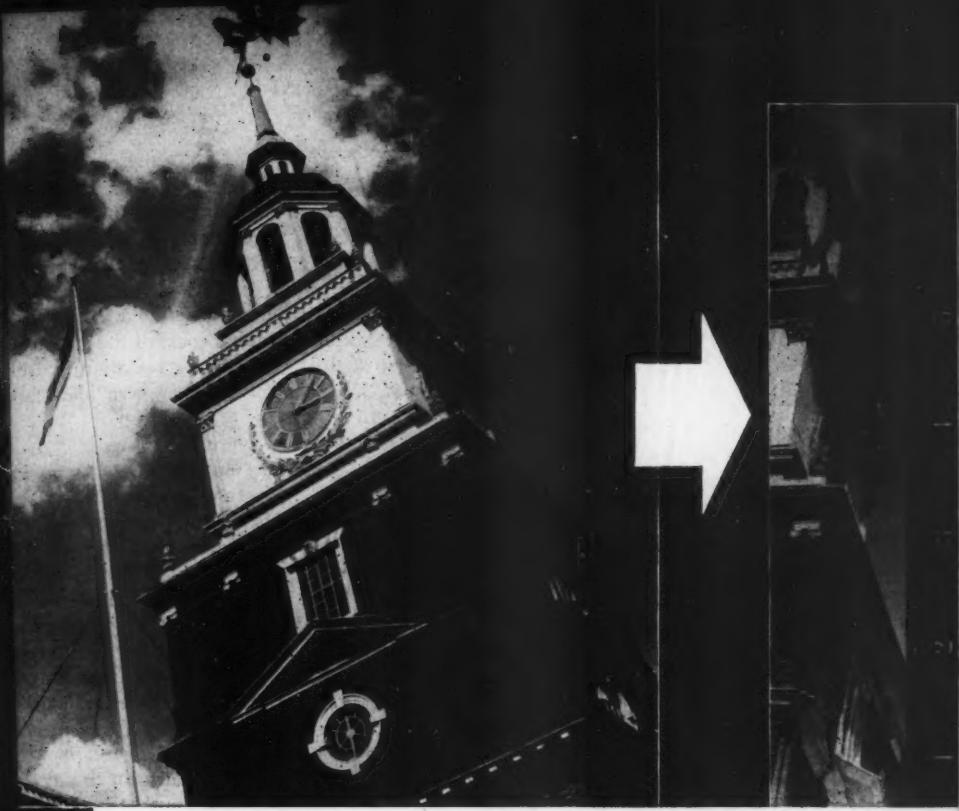
FIG. 10

A TEST STRIP is placed under the ruler so the numbers will print on it.

FIG. 11

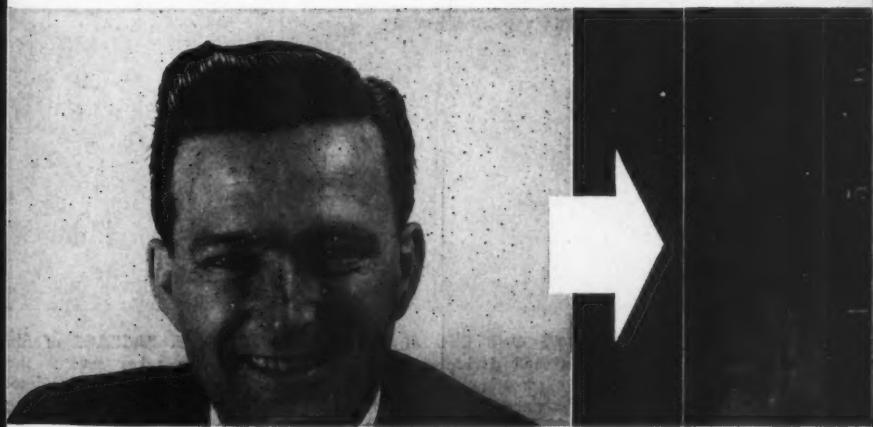
THE CLOCK pulls the black ribbon across the strip in 35 seconds.

FIG. 12



THE SPARKLING PRINT, above, was made from the timing indicated by the test strip at the right. The upper end of the test strip shows a loss of shadow detail, and the lower end is too light. Opposite 4 the tones were right, so the print was made at 20 seconds.

FIG. 13



FLESH TONES, often difficult to print for full range, can be easily studied in the test print. For this portrait the correct exposure fell between 3 and 4. The exposure used was 15 seconds.

FIG. 14

PHOTOGRAPHIC "COCKTAIL SHAKER"

Exhaustive tests determine
Film Speeds in Engineers
Developing Machine . . .

By W. A. REEDY



OUR RATING TABLE says the speed of the film is "20." Instead of going on from that point and taking a few assorted pictures of our best girl in her new hair-do lets go backwards.

Alice went through a looking glass for her adventures, so we step through this film speed window and see what is back of it.

AT ONE END of an air conditioned darkroom painted in panchromatic green, a photometric engineer selects a package of film from a strange sort of stock of many kinds of film in one dozen lots. This film is purchased from regular photographic dealers so that it will be the same as the exposure. Each succeeding step

FROM A PACKAGE of films, the engineer takes several sheets at random and cuts them into strips, one inch wide. These strips are then exposed on a machine known as a sensitometer, with a known light quality, so that there will be twenty-one different "steps" of kind you and I buy every day. has a definite, known increment.

WHAT'S BEHIND the number on the film speed dial of the exposure meter? Thousands of feet of exposed film, tests, endless tests in laboratories built especially for film testing and special equipment devised to chart the reaction of silver to rays of light. Machines like the photographic cocktail shaker have been devised for accurate agitation under controlled conditions; they give identical treatment to every piece of film.

Fifteen years ago there were H & D, Din, American, English and German Scheiner, manufacturer's ratings, arbitrary empirical numbers and tens of other methods of classifying film, enough to make the film-user dizzy. None of these agreed for a specific film and all were far from accurate. After a thorough investigation, the problem of choice was very simply solved—instead of using an existing system, a new one was invented based on sound scientific principles.

A trip through Weston's sensitometric laboratories is a short course in the modern developing techniques that have been devised for determining film speeds. Here's how film speeds are created.

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SINCE THE SPEED of a film depends on the kind of developer in which it is processed, the engineer uses the developer recommended by the manufacturer of the film. (Here's a tip which can benefit us all!) He mixes it fresh each time he needs it so that no variations due to old stock solutions will falsify his results.



FOR SOME EXPERIMENTAL work, development is carried out in trays which are supported in constant temperature baths. The solutions in the trays are always at 68° F plus or minus by a fraction of a degree. This temperature care must be observed so that future checks will not be influenced by temperature variations.



FOR THE REGULAR film speed tests, the developing machine is used. This was nicknamed the "Cocktail Shaker" by some gay blade. It is constructed of a hermeto bottle of a special form combined with an agitating mechanism. Its purpose is to eliminate the variables of agitation, and keep them under constant control.



AFTER A RINSE in a short stop, fixing, washing and drying in a dust free room, our friend finds himself the proud possessor of a film step wedge. The only way he can get all the information he's after from his film sample is to have three wedges; each one is developed a different length of time.



THE NEXT JOB is to measure the density of each step with a transmission densitometer. During this portion of the process, the engineer's occupational disease is a rare one—its outward signs being a general hatred for anything having to do with density, there is a flurry of spots before his eyes.



SINCE THE EXPOSURE of each step is known from the sensitometer, and the densities have been measured, the next procedure is to plot a curve. The logarithm of the exposure is plotted against the measured density and the result is an H and D curve, used for computing film speed.



THEN THE ENGINEER takes his camera (with calibrated shutter) and hikes himself out of his darkened caves to the bright sunshine. No, he does not always photograph subjects like this. We suspect he wanted to show off. With the results of camera tests, and laboratory tests, a speed is assigned to the film, which is checked again at intervals during the year.



MOTION PICTURE AND color films cannot be tested like still film. To test them in tungsten light, a complete studio is available. Here, Minnie the Moocher (a plaster hat model) presides over an assemblage of different types of light sources, gray scales and carefully calibrated cameras. Daylight tests are made in a similar manner in a nearby park.



WHEN THE MANUFACTURER of the film has processed the movie film in his regular way, the film is returned to be projected many times. The portion which reproduces the test objects most accurately determines the tentative speed. Many additional rolls are exposed at this speed, and slight exposure variations, until the true speed number can be assigned.

FOR FILM CHARACTERISTICS, READ FROM THEIR CURVES, SEE PAGE 69



Text and Illustrations by HILLARY G. BAILEY, F. R. P. S.

HERE IS AN old truism which says that the greenest pastures are those across the fence. The real truth is that we are so familiar with the things around us that because of their very familiarity we pass them unnoticed. Very likely the pictures we should make during the War are of those things with which we are the most familiar.

And nothing is closer to us than sentimentality. Now, please keep your seats. In America, at least, anything that smacks of sentiment is considered corny. We have been afraid of showing a few tears, have thought that a little sentiment looked mawkish when we intended to look hard-boiled. Whenever the theatre or the public platform appealed to the emotions, the critics landed with both feet labeling it a tear jerker. Even those who enjoyed a

tear now and then were denied the pleasure because of the omnipotent critics.

Sentiment need be neither sticky nor sloppy. Its real purpose is to be noble and tender and artistic. It can be and should be that emotional response, that expression of an inward feeling which comes because we want to do something about worthwhile things. If so, right now is a perfect time for the photographer to shoot something which has worth.

Why not shoot sentimentality? Begin with your own child and don't worry what the critics may say. After all, maybe their attitude has been in a measure contributory to our present situation. Who is to say but had the cameras of Europe been used to shoot sentimentality instead of guns and goosestepping there would have been a different headline in your paper tonight.



SENTIMENT need not be mawkish; the pleasure that Grandma puts into knitting this sweater is genuine and overflowing.



A HAYRIDE, popcorn and the one-and-only. The stuff that dreams are made of.



EVEN IF a pet squirrel isn't handy there are shots like this just waiting to be taken in your own back yard.



PAPER NEGATIVES ARE PATRIOTIC..

TEXT AND ILLUSTRATIONS BY STANLEY RAYFIELD

THE most useful aspect of paper negative work is the improvement it gives to picture-making generally. The effectiveness is carefully build up as work proceeds, and the greater the practice the greater the mastery obtained over the making of any arresting pictorial print, made "straight" or otherwise. The photographer learns how to balance tones and values, how to create or change emphasis, the handling and placement of highlights, how to treat light and shadow areas in relation to the picture space, the relation of tone values to receding planes so as to achieve perspective and third dimension, how to modify the subject matter.

Paper negative processing is patriotic. It demands time and patience but much less photographic material is used.

The paper negative is staging a comeback too. Already several salons have specifically asked exhibitors to submit "process prints."

Each paper negative made is an art

training lesson. Its value will be apparent the next time a pictorial print is made via the enlarger. You will wield the dodger with purpose as well as skill. You will know just what value you want in a certain area when you hold it back. Your cloud printing-in will be done with a greater realization of its unity with the rest of the scene. You will print in corners and foregrounds, not merely to darken them but to give just the subtle depth and richness that makes the finished job outstanding. Through paper negatives you will have learned pictorialism with a purpose.

Marines are always good paper negative subjects; so are landscapes (remove or subdue distracting road signs, billboard ads, telegraph poles and wires, etc), and portraits (remove skin blemishes, wrinkles, and brighten up eyes). Not so good and usually inadvisable are pictures of intense dramatic action—athletics, documentaries, industrial scenes, or shots where boldness, punch and power sell the picture.



WHAT THE LENS of a Super Ikonta B saw at Gloucester, Mass., late one afternoon in September as it looked for pictures along that picturesque waterfront. Agfa Superpan Supreme film, 1/25 sec. at f5.6. No filter.

FIG. 1

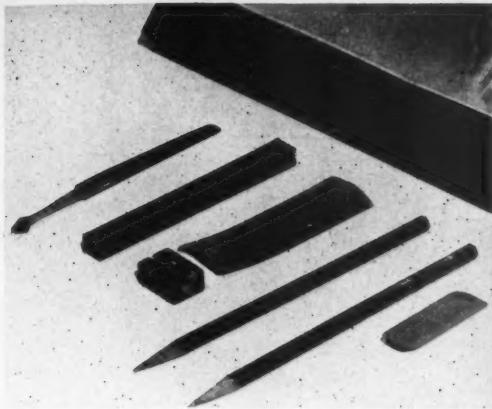


FIG. 2

This is the equipment you will need for paper negative operations:

1. Printing frame the size of your final print.
2. Retouching desk—easy to make yourself if you are mechanically-minded.
3. Clamp-on light with flexible neck for use with retouching desk. (Try a good drug store or any hardware store). Use

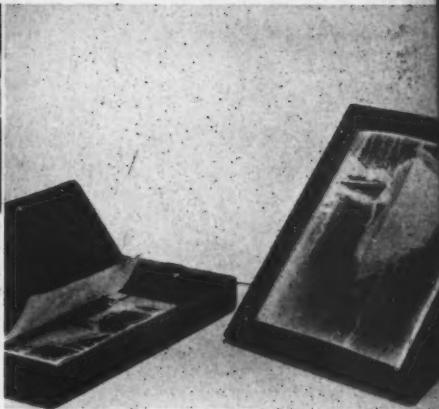


FIG. 3

- blue daylight bulb, 75-watts.
4. Two ordinary pencils, HB and 3H. Keep them very sharp with quarter-inch points. (Expensive retouching pencils aren't necessary).
5. A five-cent pencil sharpener.
6. Eraser with thin, straight edge.
7. Good etching knife, also stone for sharpening. Some people use a razor blade.

FOR PAPER NEGATIVE
TECHNIQUE SEE PAGE 48

A STRAIGHT, undodged print of the section selected for paper negative treatment. A 14 x 17 paper negative was made on Velour Black N from the positive print.

FIG. 4





THE PAPER NEGATIVE. Disturbing details in back of the boat have been eliminated and the composition has been generally simplified.



SAFE HARBOR. Despite the ever present temptation to go "Arty," this paper-negative maker's finished print is still a photograph. Sweeping simplification in the composition has given it depth and beauty.

DON'TS AND PITFALLS

Don't try to change the original picture radically. If a subject needs drastic alteration it should never have been taken in the first place.

Don't "touch up" highlights till they are chalky white. Remember that nature is full of soft, subtle nuances with infinite gradations. Preserve them.

Don't make shadow areas too luminous or too dark. Control their tone so as to enhance the feeling of depth.

Don't overdo the retouching or the finished print will look faked and phoney. Be discreet. Go slow with pencil and knife, and be fiercely critical of your work at all times. Make plenty of small test strips of the retouched areas.

Use the paper negative method to improve an already good picture, to point out the emphasis that should already be there, to give sparkle to existing highlights, to modify shadow values to give depth and third dimension to the scene. It is easy to remove small objects that are out of place like the factory chimneys in Figs. 1 and 4.

Likewise, a weak or empty section can be strengthened by the addition of a small object or figure, but a skillful hand is necessary to make it look real. Go ahead and try it. You never know your limitations until you do.

The steps in paper negative print-making are simple:

1. From the original negative make a dia-positive (commonly known as transparency or positive) on Commercial Ortho film, emulsion to emulsion printing, using your enlarger, but masking off all stray light because Commercial Ortho is very light sensitive. Time your exposure so that you will get a good transparency by developing 4 minutes in, say, D-72 or D-55, diluted 1:4. The transparency is not brilliant, as in lantern slides, but highlights are slightly veiled, and shadow areas have bold detail. Fix, wash, dry.

2. Then, using the enlarger again, print transparency on single weight paper like Velour Black N or Kodabromide A (emulsion to emulsion again), thereby getting a paper negative which will be the size of the finished print. If less grain or texture is desired, project transparency, face upwards,

THE FINISHED PRINT

Paper negative prints have a rich patina which the cynical like to call "arty." This is obtained by printing through the back of the paper negative and is merely the paper texture. This patina, or screen-like effect, imparts a richness and depth that straight enlarging rarely gives.

Finally, do paper negatives justify the work and time they require? Try this experiment. Take your first good print, mount it uniformly with others made by straight enlarging. Then place them side by side along a convenient wall in a good light and leave them there. After living with the two pictures a few days you will find the paper negative print has an impact and compelling power, by reason of its lovely quality, that makes it overshadow the other.

You develop whatever inborn artistic sense you possess. Any fine photograph is necessarily right, even if unconsciously, in its composition, tone values, emphasis, perspective. Just as successful etchers and lithographers "feel" these factors instinctively when they make their plates, so does a good photographer as he handles his paper negative. When the final print looks phoney or unreal, it's a cinch that the artistic eye of the maker was untrained or defective.

on the paper negative, emulsion side down, (back to back, in other words). Printing paper should be backed up with black paper base to prevent halation. Drawback: exposure will be about 15 times more than with emulsion to emulsion printing.

3. Then retouch this paper negative. Reduce highlights by *very gently* scraping emulsion surface on your retouching desk by transmitted light. Lighten shadows by *very gently* adding pencil in form of small circles or interlocking figure 8's until required tone is attained. Eliminate unwanted objects by retouching and scraping until object has completely blended into surrounding tones.

4. Make final print (rough surface papers are advised in printing frame by contact (emulsion to emulsion again), exposing paper to ordinary electric light. Develop, fix, wash and tone print (if desired) — and there you have it. **END**



"SEA BEER." f11, 1/300 second. We like unusual shots, but we would have liked this picture much better if it were less puzzling and a bit clearer. It would have been a good idea to put the onlooker at ease by bringing in some unobtrusive background explanation, a few shells or seaweed or the out-of-focus contour of a boat. As a study, this is interesting, very well exposed—though you went a bit too close in your good intention of giving a close-up—well handled, especially as the low camera angle is concerned. There is a terrific amount of action snapped in this shot and a bewildering variety of patterns.



"THE CITY." Detrola KW, f8, 1/50 second, Verichrome. Shooting against the sun, the photographer achieved a strong silhouette effect, the reflection in the water is strong and powerful and the steam from the tug-boats was a lucky break. But there is too much detail in the foreground, too many patterns and shadows and persons. The foreground and the center (without the skyline) is *one* picture; background with a little foreground *another*.



"POUTIN." (Data not given.) This is one of the very few stare-into-the-camera-children-pictures, which are not dull or outright silly. All credit goes to the photographer for (1) snapping the picture at the right moment, (2) highlighting the face, thus putting all emphasis on the most interesting detail, (3) omitting all distracting background detail.



"SWAN LAKE." (No data given.) All this picture needed to make it a success was an unrationed portion of good, strong sunlight to make it lively and transparent. As it is, there is a certain dreary mood about the lake. There is too much foreground. Cut it off and try another print on a very soft paper.

LOOK'S FORMULA—AS ANALYZED BY EARL THEISEN

About 20 photos are required for a six-page spread. Fewer photos are used if the pictures are stronger, because the individual photo is used larger.

About 10 photos show . . . character development, as does a short story, including what may be termed *cute* photos, ideas that illustrate the person or tell the story. Each photo must include props that add interest and aid in narration. The props should not be difficult to understand nor complicate the photo composition.

About 4 photos show . . . tricky effects that excite interest. These photos are generally used full page. They include those ideas, composition, and lighting effects that catch a broad section of men, women and children readers. These photos should use natural inherent interest of public in sex, clothes, topical prop objects such as current military note, or action that pulls interest. These are the shots that make covers, and should have a minimum of detail.

About 2 photos show . . . Glamour interest for its own sake. While all shots possible should include it, generally two shots are more obvious in the sex treatment, such as

subjects lying on beach, climbing through a fence. Of course the more this angle is combined with fresh clean-cut wholesome models, or with action and the story idea behind the photo, the more desirable such photos are for publication.

About 4 photos show . . . setting; they are usually longer shots, yet show "business" and story slant.

While the general slant behind the photos varies with the individual stories, the general formula outlined above has generally been included in those general stories that have not highly specialized interest. Even in the specialized fashion stories attempts are made to include elements that interest men and children as well as women. This is done by sex, prop, and picture action.

I have found it is desirable before approaching a story to ascertain the slant desired by the editors. This slant then should be used to color each shot. The slant is used to tie all shots together into a story idea. For example, a wedding story would be high key with gay light patterns, while one on the war would be more sombre, with contrast whites and deep shadows.



By DON M. PAUL

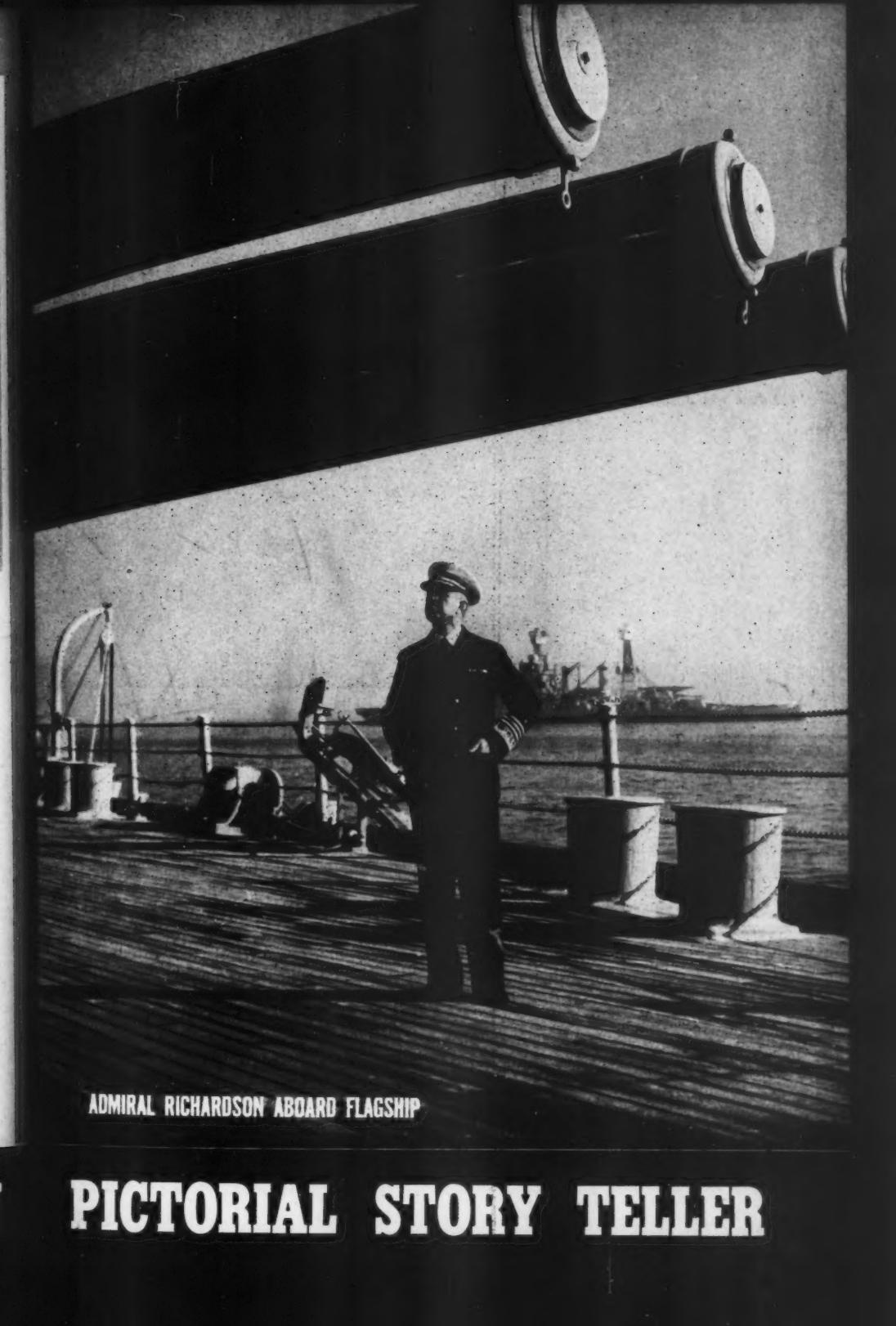
EARL THEISEN of *Look* Magazine was bitten on the leg by a big black bear. The bear wanted to wrestle. Theisen did not—he wished simply to take his pictures and run on to another assignment. Naturally he expressed his obstinacy at doing battle. The bear retaliated. In surprise and pain Theisen slapped out with his fist, which was loaded with a Graphic. The bear yelped, then stared in disbelief at the camera. Then Theisen shot a picture. The click of the shutter and the flash of the bulb added to its terror and it ran like the devil. The trainer ran after it. That warranted another picture. The series made *Look*. But that is no novelty now, for most of Theisen's pictures make *Look*.

Earl Theisen is the maharajah of pic-

ture magazine photographers. For variety his job beats all others. For excitement it keeps him in a welter of continuous high-blood pressure. For six years he has been *Look's* Hollywood photographer. That under normal conditions would be a sugary glamour job. Theisen, however, knows no normal conditions. His average of eight pages per issue to *Look's* ten million readers makes him a personality. He is rated as one of the three foremost magazine photographers in the country. To give the title some justification he regularly gives his picture stories a new twist, using camera angle, composition, or lighting that dramatizes his subject. His pictures are pictorial stories rather than salon inanities.

That is the secret of well-deserved suc-

Want It **EARL THEISEN**



ADMIRAL RICHARDSON ABOARD FLAGSHIP

PICTORIAL STORY TELLER

HARDY, JR., the debonair Mickey Rooney's first shave. This picture was one of a series showing Mickey at home. One Press 40, at left; one Midget on the camera. Taken at f16, 1/200th of a second. The Midget was diffused.



cess. Earl Theisen tells a story in every picture he takes. One look invites another.

If *Look* features a display of the U. S. Air Force's ability to bat 100% on a practice target with live bombs or live machine-gun ammunition, Theisen does not content himself with before-and-after pictures. He hangs out of the machine-gun nest of a bomber, shooting the target as the bomb falls, and as it explodes. If this is too tame, he stands twenty feet from the target and photographs a dive bomber at work, pinning his faith on America's fliers to make the bullets fly true.

To Theisen, a picture that has no inherent meaning other than bland sugary beauty is valueless. He tries to make pictures that challenge the imagination. Each is a graphic portrayal of a scene with a plot mixed in. How he gets the story element into each picture is a fine technique that is worth learning. Tracking

back, one finds that he visualizes each picture as he would a story plot, often tying together several pictorial sequences to provide lead paragraph, dramatic incidents, climax and conclusion without necessity for words. The pictures tell the tale, each picture is an entity in itself.

Like many others who are on top, Theisen started in his youth with a \$2.00 box camera, learning the fundamentals of good photography from the bottom up. Reared on a ranch in Colorado, his enterprise was aroused by a plane that crashed nearby. Several pictures showing its landing won a contest in the *Denver Post*. He was then about fourteen years old. His excited interest brought him a darkroom outfit as a gift from his grandmother. The instruction book that accompanied it was his only mentor. At twenty, he decided to learn photography through the most basic type of study known. He began to



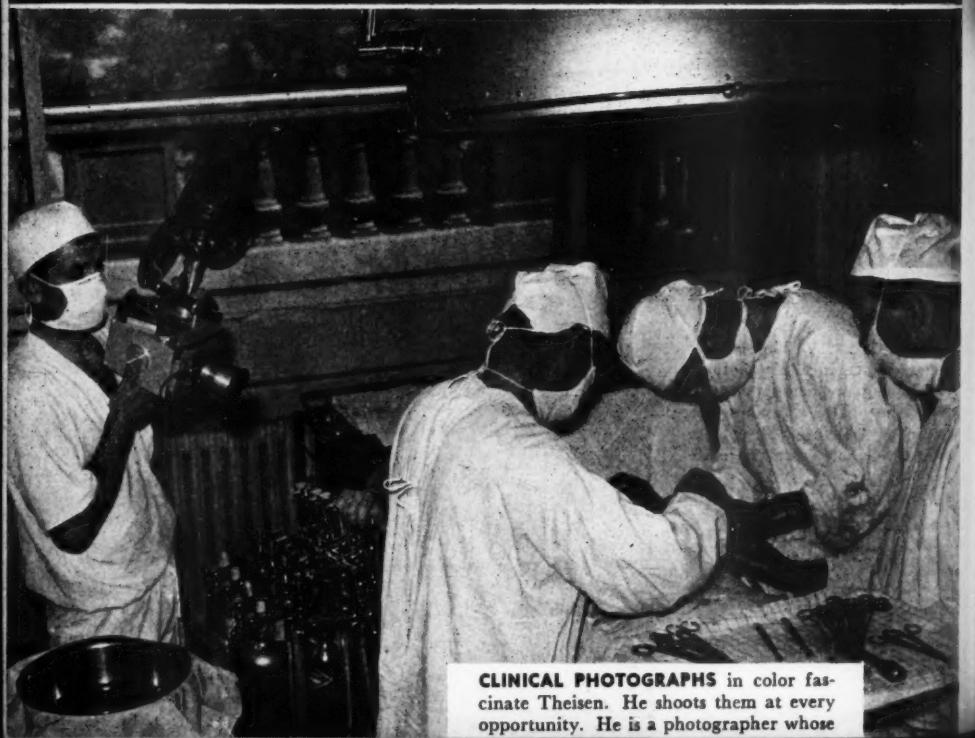
MEXICAN SPITFIRE Lupe Velez. Strictly a gag shot—this went over big with the customers. One Midget bulb to the left of the camera. Shot at f/11 at 1/200th of a second.



MAD DOG . . . Theisen got the creeps taking this picture. After seeing the dog caught, he took a hot bath. He shot the picture at 1/200th, f/11 with a Midget bulb at the camera right.



FOR CANDID ACTION Theisen marked a spot on the floor and focused. When the De Marcos reached it, he shot the picture using two flash bulbs.



CLINICAL PHOTOGRAPHS in color fascinate Theisen. He shoots them at every opportunity. He is a photographer whose



"FASHION SHOW." Two Press 40's in 16" reflectors on the side, aimed at the subject, away from the mirror, were the main light source. Shot at 1/50th of a second at f22.

float throughout the country, somewhat in the manner of a journeyman journalist, working for photographers in dozens of states, handling their darkrooms, studying their work, improving his darkroom ability constantly. It was at this stage that he feels he learned his most important lesson.

"Darkroom technique, in itself," says Theisen, "is not the most vital, or even a greatly important part of good photography. The secret lies in the planning and the taking of the picture, the psychology that results in the picture, and the story that the picture tells."

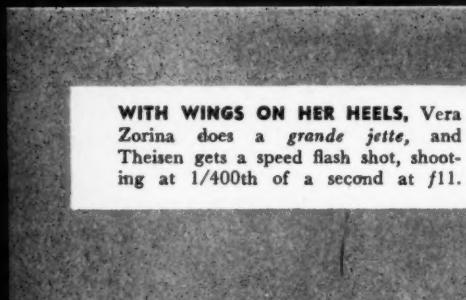
Once the apprenticeship was served, Theisen turned to more promising fields. He headed for the Photo-Mecca, Hollywood, and found that the field for photographers was pretty well sewed up. The



TO COVER a hunting trip on horseback, Theisen took to a horse, and went along with Marie Wilson and her guide.



OOMPH GIRL Ann Sheridan tries out the new cotton stockings. A shot from a series on the silk shortage. The lack is sorely felt in Hollywood, where stars wear out several pairs a day. Theisen took this using two Press 40's, f16, 1/200th of a second.



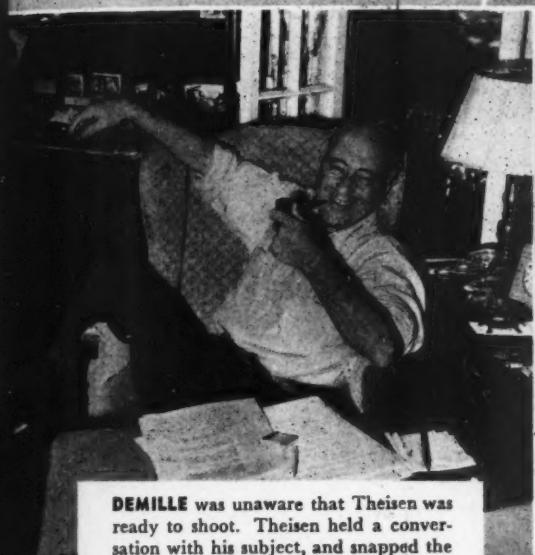
WITH WINGS ON HER HEELS. Vera Zorina does a *grande jette*, and Theisen gets a speed flash shot, shooting at 1/400th of a second at f11.



"DO LIKE DADDY." Theisen is a natural at work, as he is at play with his child. This was a self-portrait, taken with a timer.



PERHAPS INSPIRED by the drawing of Marcelle Duchamp-Villon, Theisen crouches to photograph Paulette Goddard descending the stairs.



DEMILLE was unaware that Theisen was ready to shoot. Theisen held a conversation with his subject, and snapped the picture in the middle of a sentence.

only opening he could find in his chosen field was the one thing he had hoped to leave behind him. A few days after his arrival he was working in the laboratory of a major motion picture studio, processing movie film, and later doing research on photo-chemistry.

Years in Hollywood pass quickly, without noticeable appreciation of milestones passed. Several years later Theisen felt he was getting nowhere fast. He quit photography to go into the writing field. He had learned the inner workings of Hollywood and began to write about it and about scientific and experimental subjects.

The transition to writing was helped by the methodical training that laboratory work had given him. By the same token,

FOR REALISM Theisen will take any risk. In this case he had the knife thrower aim just to the right of the camera.



WATER SPRAYED and wind lashed, Theisen shot these two secretaries on a vacation in Honolulu at f11, 1/400th of a second.





A DIFFICULT SHOT of Rita Hayworth. The over-head sun forshortens the subject, causes grotesque shadows, makes eyes look like black holes. Theisen used a flashbulb to lighten the shadows.

his later return to his chosen field—picture-taking, was helped materially by his years as a writer.

It was in 1936, at the age of 33 that Earl Theisen went into the *Look* job. He had been writing for the syndicate that began its publication. It was young and Theisen had ideas. Picture journalism, once started, had been overwhelmingly taken to the bosom of the public. Theisen suggested going a step further. "The picture itself should tell the story," he said. "Captions should be terse, and actually unnecessary except for specific identification. Pictures in series should carry the tale as well as the locale, and should be rounded out as is a short story."

Theisen's photo-activities immediately began to bear fruit. He knew Hollywood; he knew photography; he knew writing. The three points vital to his job were inherent by practice and contact. In knocking around he had studied human nature and by playing upon the innermost thoughts and conceits of his subject, lifted to the forefront the expressions and emotions that he felt were most important to the picture. At the same time, to bear out the theme and explain the locale, he wove pictures by combining the two.

Three unknown girls photographed by Theisen got screen contracts because of *Look* stories. Rita Hayworth still gives *Look* credit for her first break which attracted national attention to her. To Theisen every picture series is a story. Diplomat that he is, his last subject is always his favorite. That eliminates rancor.

Naturally Theisen observes stipulated rules in the mechanics of taking good pictures. He places these second to getting the story in the picture. Nevertheless, he is able to list the ten elements that aid in the picture itself:

1. Visualize situations from the picture standpoint, shoot quickly while the picture is still there. Expressions are fleeting, and once gone will not return.

2. Learn the importance of handling people. It is more vital than the mechanics

of the camera. Become so familiar with your camera that it becomes a sympathetic instrument that follows your reflexes.

3. Photograph subjects before they have a chance to develop a fixed attitude to the camera. Get the camera adjusted and focussed, converse interestingly, then take the picture in the middle of a sentence. Expressions thus will be normal and unconscious of camera-intent.

4. Take advantage of early or late instead of midday sun. Use flash to balance main sidelighting. Make shadow outlines useful in giving the aspect of depth and symmetry. Use flash instead of reflectors to avoid squinting.

5. Apply sympathetic psychology to subject matter. Lighting and texture should conform with the nature of the subject. A rugged man in a tweed coat should look rugged. Use crosslight on the coat to show the warp and woof, and bring out texture. Use crosslight particularly on snow and sand. If the sun won't do it, intense flash is useful.

6. When shooting fast action, set the center of action, focus for that point, don't try to follow the movement, but wait for action to approach the fixed spot, then shoot.

7. Familiarize yourself with darkroom technique, but don't assume that all picture faults can be rectified in the darkroom. If the picture is not good in the first place, no treatment can give it the needed shot in the arm for press acceptance. Spotting is justified, but not retouching.

8. Don't take "just pretty" pictures. Inject some semblance of life into them. Newsworthy pictures are those that suggest or imply as well as tell a story.

9. Be discriminating. Don't waste film, time and effort. Try to make each picture a self-sufficient picture. Try for pictures which, like good paintings, will survive for the future.

10. Don't be a longhair. Don't be smug. Don't be contemptuous of subjects or of other photographers. Each man to his taste. Try to elevate your own.

END



THE CLICK of the camera is only the beginning of Dr. Otto Bettman's extensive filing system. Classifying, indexing and cross indexing each particular subject, one print can serve as many as five different purposes.

DR. BETTMAN at his extensive miniature card file. Each film goes through thirty separate operations before it is completely filed. For each category under which the film may be cross-indexed an individual card is made.

WORKING ON a miniature film album. Each envelope contains 36 frames. The pictures are taken in strictly numerical order without consideration of contents. Each negative is analyzed as to subject matter and detail.

• A FILING SYSTEM THAT "WORKS"

by DR. OTTO BETTMAN, *Director, The Bettman Archive*

QUESTIONS POUR down on me in a perpetual quizzle from publishers, writers and agencies. My film index gives evidence concerning the beginning of any industry, profession, trade. Whether it's a history of the elevator, the camera, the use of suspenders, modes of kissing, or other essential techniques in life, my subject card guides me straight to the pertinent films and 5x7 pictures are ready in short notice with full authentication.

It's a nice thing to find the negative you're looking for. It's not only nice, it's lucrative. To make it possible you will have to tear yourself away from the dark room and go to the desk, make a record of your films and file them logically.

I present my system, urging you to give it some thought, and develop a system tailored to your specific needs—primitive as it may be—but a system. Your momentary fun will be perpetuated if you build up your old negatives as a ready reference file, be it for private reminiscence, or for that little cash on the side. You have these alternatives: 1. No system: a constant, "gosh—I never, never will find that film—just a hopeless mess," or; 2. A system: "I must have it—it will take me a few hours to find it—but I will work it out."

As head of the Rare Book Department in the State Art Library of Berlin, I was once called upon to assemble a number of

(Page 62, please)



NO. 169.23

REG. 55-1000

DESCRIPTION
Rogier van der Weyden
(1400-1464) Saint Luke
drawing Madonna.
Bunich. Gallery.

INDEXED UNDER
Saint-Luke
Mother and Child
Hand
Artist
Silverpoint
Parchment

THE BETTMANN COLLECTION, NEW YORK

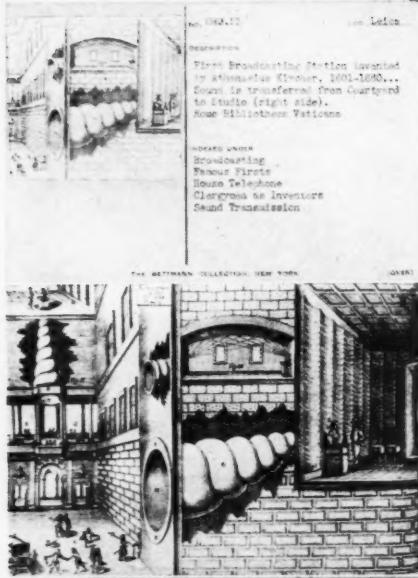
FILE CARD 169.23 Roger Van
Der Weyden (1400-1464). St.
Luke drawing a portrait of the
Virgin. This famous master-
piece is full of revealing detail
on several important subjects.



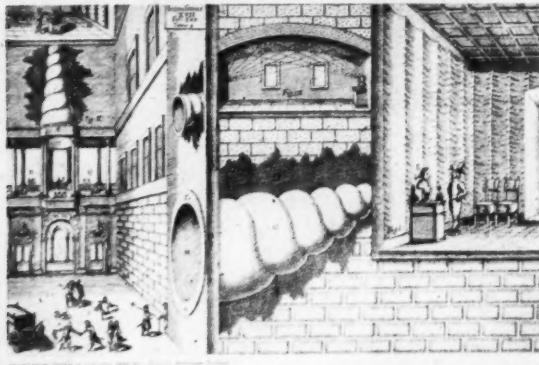
CLOSE-UP card illustration (left) and detail (right) of Mother Mary and the Child Jesus, reveals a most charming picture of the mother and child theme.



GREATLY ENLARGED detail of the Saint's hands and drawing pads gives a clear view into an artist's utensils of A. D. 1450. The silverpoint used for drawing on parchment produces a minute portrait. Lack of paper compelled artists to adopt this precise technique.



A notable French priest and author, by name of Athanasius Kircher, invented this broadcasting system in the 17th Century — so that the intelligent listener in brushes at 61 could hear everything said in the central court at 6. The rest of the family could listen, too, with "bone-speakers" in each room. But that was only three centuries ago. Long before that — long before Athanasius Kircher struggled with giant tongs — the purpose and power of broadcasting was known to man. In his days, too, before his system



TYPICAL INDEX CARD, enlargement, and use in advertisement of a print from the Bettman Archive, one of the collection's best sellers. The careful analysis of the print enabled Dr. Bettman to sell this picture to various magazines and advertising agencies. The print was dug up in a musty archive in Rome, Italy. It was utilized in a campaign by Columbia Broadcasting Company.

old book illustrations dealing with pristine days of modern industries. I bought an old camera and started shooting. My file was a 5x5 cardboard box.

There were photo reproductions showing old paper mills—or a bathing beauty reading a dime novel in the tub. Or perhaps my lens was aimed at a manuscript showing a monk in his studio.

Compelled to shift over to another profession, when I came to this country some years ago, I looked at my hundred odd pictures in search of a marketable commodity. It occurred to me that I had

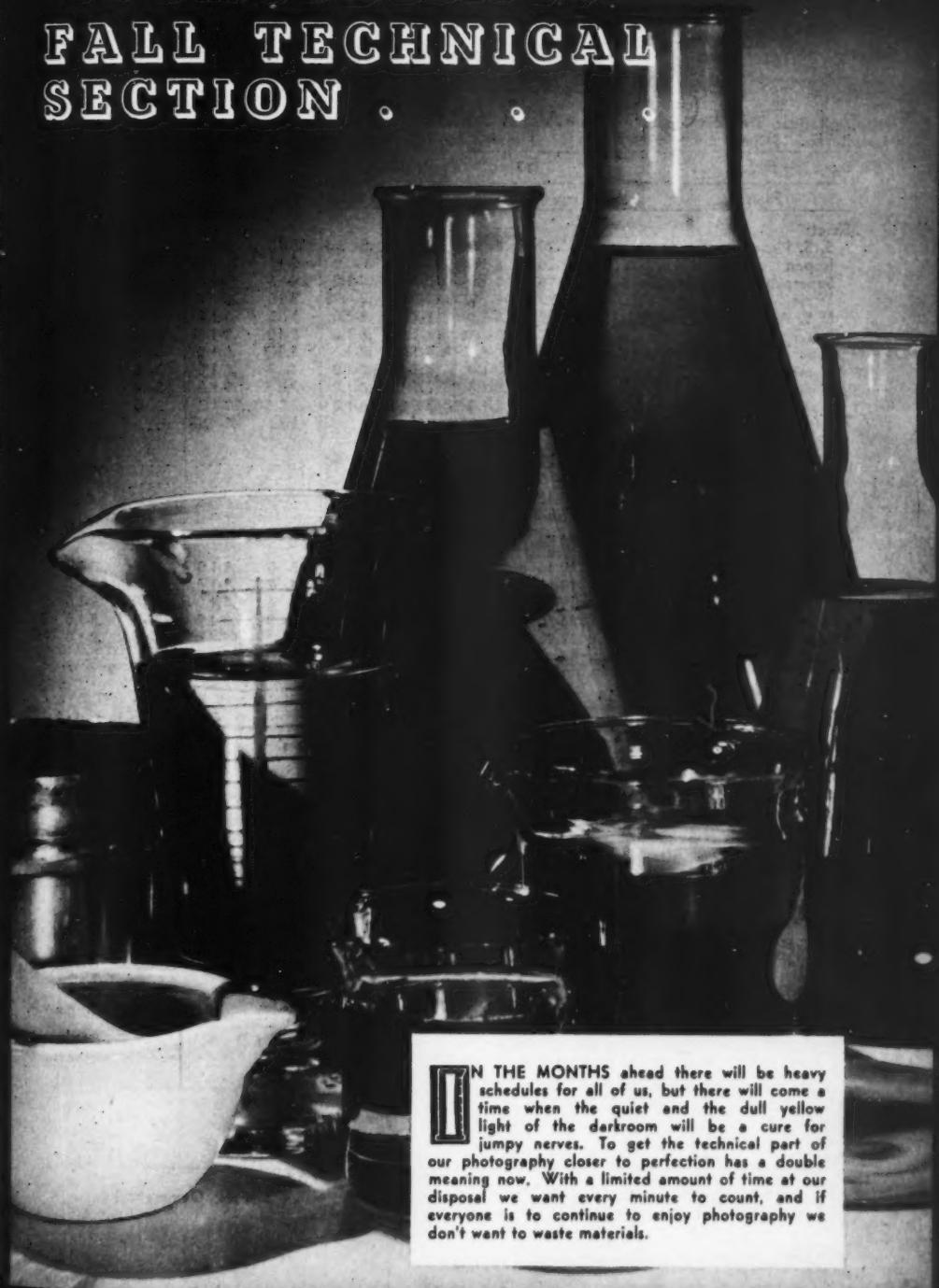
(Continued on page 96)

as stone, the voice had gained an effection, instant path into the mind. That path is re-opened in every child today—long before he seeks any other communication with the world, and it grows with the child. "We did not need radio to discover this. Here is what Pliny the Younger said, over *optical* what was seen: 'He was most affected by word, by letter, by thought what was seen in books most; in every portion, there is something *descriptio* more than *ratio*, a deeper impression on the mind.' " 4 The truth of Pliny's almost observation has been amply confirmed in many laboratories of modern science. If you care to assign the sentence to yourself, see Vol. 2 and also a couple of *case histories* of members of the species *Homo sapiens*. It is a little foolish, but it summarizes the work of more than a score of psychologists who, for 30 years, have made comparative studies of the spoken and written word, and who have carefully measured the impact made by words, spoken and written. 4 Their conclusion: *descriptio* Pliny already knew—were a bare explanation of the response which many millions of listeners make to radio. *Contra*

REPLACEMENT LETTERS AND THIS BROADCAST. Please Note: This
Letter is not a "Grant" and is not a "Contract" or "Offer" to do business
with you. It is a "Request" for you to consider doing business with
COLUMBIA BROADCASTING SYSTEM. It is not a "Contract" or "Offer" to do
business with you. It is a "Request" for you to consider doing business with
COLUMBIA BROADCASTING SYSTEM.

Minicams

FALL TECHNICAL SECTION



IN THE MONTHS ahead there will be heavy schedules for all of us, but there will come a time when the quiet and the dull yellow light of the darkroom will be a cure for jumpy nerves. To get the technical part of our photography closer to perfection has a double meaning now. With a limited amount of time at our disposal we want every minute to count, and if everyone is to continue to enjoy photography we don't want to waste materials.

PHOTO DATA

CLIP SHEET FOR PERMANENT REFERENCE

Agitation: Tray developed.
Rocked 15 times per min.

AGFA ANSCO FILMS

Temperature: 68° F.

Gamma:

Developers	17		17-M		47		48-M	
Films	Time	Gamma	Time	Gamma	Time	Gamma	Time	Gamma
Sheet:								
S. S. Plenachrome	12-20	.8-.9	12-20	.8-.95	5-10	.8-1.0	4-9	.8-1.0
Isopan	12-20	.8-1.0	12-20	.8-.9	6-12	.8-.95	6-12	.8-.95
Superpan Portrait	10-16	.8-1.0	10-14	.8-1.0	4-6	.8-1.0	3-5	.85-1.0
Triple S Pan	12-20	.75-.85	12-20	.8-.95	8-15	.8-.95	8-15	.8-.95
S. S. Pan	8-12	.8-1.0	8-11	.8-1.0	3-5	.8-1.0	3-4	.85-1.0
Superpan Press	10-20	.8-.95	12-19	.8-1.0	5-10	.8-1.0	5-10	.8-.95
Super Plenachrome Press	11-20	.8-1.0	9-15	.8-1.0	3.5-7	.8-1.0	3-6	.8-1.0
Commercial	10-16	.8-1.0	7.5-10	.8-1.0	4-7	.8-1.0	3-5	.85-1.0
Commercial Ortho	9-14	.8-1.0	8.5-12	.8-1.0	3.5-5	.9-1.0	3-4	.85-1.0
Commercial Pan	7-10	.8-1.0	7.5-10	.8-1.0	3.5-5	.90-1.2	3-5	.95-1.2
Triple S Ortho	12-20	.75-.85	....	....	6-12	.8-.95	....	....
35 mm.:								
Fine Grain Plenachrome	7-12	.75-.87	7-9	.75-.85	....	....	....	....
Finopan	6-8	.65-.75	8-11	.75-.85	....	....	....	....
Supreme	10-12	.65-.75	11-14	.75-.85	....	....	....	....
Ultra Speed Pan	17.5-22	.75-.85	14-19	.75-.85	....	....	....	....
Infra Red	....	....	4-6	.7-1.0	....	....	....	....
Roll and Pack:								
Finopan	10-16	.8-.95	12-16	.8-.95	3-5	.8-1.0	3-5	.8-1.0
Plenachrome	10-16	.8-1.0	11-18	.8-1.0	4-7	.8-1.0	4-8	.8-1.0
Superpan Press	14-20	.8-.95	11-20	.8-1.0	4-6	.8-1.0	3-10	.8-1.0
Super Plenachrome	14-20	.8-.90	12-20	.8-.95	4-8	.8-1.0	3-6	.8-1.0
Supreme	12-20	.8-1.0	11-18	.8-1.0	4-6	.85-1.0	3-6	.8-1.0

Finex developer: Develop all 35 mm. rolls and packs listed above for 18 min. at 68°, constant agitation.

DEFENDER FILMS

Temperature: 68°

Gamma: As indicated

Film	Gamma	Developers				
		1-D	2-D	3-D	4-D	6-D
Arrow Pan	0.9	5 1/2	10	4 3/4	10 1/2	18
Arrow Pan Press	0.9	5 1/2	10	4 3/4	10 1/2	18
X-F Pan	0.9	7 1/2	7	7	14	13
Fine Grain Pan	0.9	7 1/2	7	5	12	10 1/2
X-F Ortho	0.9	9	6	6	11 3/4	13
X-F Ortho Press	0.9	9	6	6	11 3/4	13
Portrait HGS	0.7	8	6	4 3/4	7 3/4	12
Portrait	0.7	5 3/4	5	4	6 1/2	7 1/4
Pentagon	1.0	12	12	11 1/2	17	18
Commercial	1.0	7	...	...	...	9 1/4

DUPONT FILMS

Temperatures: 68° (70° for 777)

Gamma: 0.8

Developers	ND-2	ND-3	6-D	777
Film				
Superior 1	6	12	9	9
Superior 2	9	30*	13	11
Superior 3	11	...	15	14 1/2
Infra D	19	...	22	13

* For a gamma of 0.7

Microscopy: 5 min., intermittent agitation in ND-2, 1 part; water, 2 parts; Gamma = 1.0
3 min., intermittent agitation in PD-1, Gamma: 3.0

PHOTO DATA

CLIP SHEET FOR PERMANENT REFERENCE

MINICAM
PHOTOGRAPHY

Agitation: Intermittent

EASTMAN FILMS

Gamma: As indicated

Film	Developer Recommended	Developing Time (68° F) Tank	Approximate Gamma
Kodachrome Prof. Film (Daylight) ...	Processed only by E. K. Co.		
Kodachrome Prof. Film Type B	Processed only by E. K. Co.		
NON-COLOR-SENSITIZED			
Commercial	DK-50	6 Min.	1.1
Commercial Matte	DK-50	6 Min.	1.1
Kodak Safety Positive (35 mm)	For Positives from Flat Negatives: D-11 Normal Negatives: D-11 Contrasty Negatives: D-11 For Positives from Line Negatives: D-11	7 3 1 1/2 4	2.8 2.2 1.3 3.6
Kodak H. C. Safety Pos. (35 mm)			
ORTHOCHROMATIC			
Ortho-X AH	DK-60a	6	.7
Super Ortho-Press AH	D-19	6	1.2
Super Ortho-Press Film Pack	D-19	8	1.2
Super Speed Ortho Portrait AH	DK-50 (1:1)	11	.7
Commercial Ortho AH	DK-50	8	.9
Contrast Process Ortho AH	D-8 (2:1) (tray 65° F.)	2	3.7
PANCHROMATIC TYPE B			
Super Pancho Press AH	D-19	6	1.2
Super-XX Pan AH	DK-60a	7	.8
Portrait Pan AH	DK-50 (1:1)	8	.7
Panatomic-X AH	D-76	17	.9
Contrast Process Pan AH	D-8 (2:1) (tray 65° F.)	2 (tray)	
Kodak Micro-File (35 mm)	D-11—High contrast	5	4.0
PANCHROMATIC TYPE C			
Tri-X Pan AH	DK-60a	6	.7
Super Pancho-Press AH	D-19	6	1.2
Kodak Direct Positive Pan (35 mm)	See instruction sheet		
INFRARED SENSITIVE			
Infra-Red Sheet Film	D-76	8	.9

Film	D-76		DK-20		DK-60a	
	Intermittent Agitation at 68° F.					
	Time	Gamma	Time	Gamma	Time	Gamma
Rolls and Packs:						
Verichrome	17	.8	15	.7	7	.9
Panatomic X	19	.9	19	.7	7	1.0
Plus X	17	.9	15	.8	7	1.1
Super XX	17	1.0	15	.8	7	1.7
35 mm. and Bantam:						
Panatomic X	14	.8	14	.7	..	..
Plus X	16	.8	16	.7	..	..
Super XX	20	.8	23	.7	..	..
Infrared	9	.9	10	.9	..	..



How to Make a Tintype

THE WET COLLODION PROCESS is used to produce tintypes. When thin enameled black iron plates are used the silver deposit shows up as the light tones and the black of the plate shows through to create the shadows. The old-style black enameled ferrotyping plates can be used to create these interesting photographs.

A well-cleaned black tin is coated with iodised collodion (collodion base in liquid form and the separate bottle of iodiser can be purchased from George Murphy, 57 E. 9th Street, New York City, G. C. Dom, 125 Pearl Street, Cincinnati, and most photo-engraving supply houses) and as soon as the collodion has set, this coated plate is immersed in a bath made as follows:

Silver nitrate.....	240 grams
Potassium iodide.....	1 gram
Distilled water.....	8 ozs.

Dissolve the silver salt in 2 ozs. water, and the potash in $\frac{1}{2}$ oz. water. Add the latter to the former, and add the remain-

der of the water. Filter, and test for acidity. If the blue litmus paper is not turned red after a short immersion, a few drops of a dilute nitric acid (1 in 12) should be added till the bath is decidedly acid.

The plate is exposed while still wet, the exposure being about ten times that for gelatine dry plates of ordinary rapidity under similar circumstances. The following developer may be used:

Ferrous sulphate.....	1/2 oz.
Glacial acetic acid.....	1/2 oz.
Methylated spirit.....	1/2 oz.
Distilled water.....	10 ozs.

To develop the exposed plate a little of the developer is poured evenly onto the surface and gently rocked backward and forward till the image is sufficiently developed.

Then fix in:

Potassium cyanide.....	120 grams
Distilled water.....	10 ozs.

Wash thoroughly, dry, and varnish.

TWO FRENCHMEN, Neipce and Daguerre started something back in the 1840's. But how were they to know that they were to cause countless hours of sleep to be lost 100 years later by proud papas getting "just one good picture" of Junior for the wife who's off with the W. A. A. C.

The process they worked out was the rage of the 40's and 50's and then along came an English Harry Champlin named Talbot with a new fangled idea that made duplication possible. There is no record of his having called it Talbot's # 16, but it caused tongues to wag. Daguerre's

process is still interesting. The oldest known permanent photographic process is fun. Besides making tintypes, there are old family portraits to restore, a worthwhile project.

One of the leading exponents of the tintype in America is Charles Tremear, who presides over the tintype studio in Greenfield Village, the 200-acre collection of Americana founded by Henry Ford at Dearborn, Michigan. There, recently went radio singer and camera fan Jane Pickens to see how tintypes were made. Charlie Tremear knew a model possibility when he saw one and he lost no time in "Meeting

(Page 68, please)

YOUR TINTYPE

Making and Restoring "Gay 50's" Candid shots

How to Restore Tintypes

MANY TIMES the secrets of our ancestors' characters can be disclosed by a cleaning up and restoration of tarnished tintypes. It's a simple and interesting process too.

Before exposing the tintype to the cleaning baths it is a good idea to make a copy of it. Then if the cleaning goes awry at some point the copy is still available. Place the tintype on the back wall of a deep box, lined with velvet or black cloth, with a hole in the lid for the lens to peep through; and a piece cut out of one side for lighting it by flood or spot light. In most daguerreotypes the marks of the buffer are seen as fine horizontal lines. In copying, these should be placed vertically, and when in that position are barely visible. Several negatives made through different color filters will disclose the best one for filtering out the tarnish.

To copy the tintype carefully remove from its frame and separate from the covering glass. Place face upward in a dish of cold water. Be extremely careful not to touch the front of the plate, as the slightest touch will leave a permanent mark. Lift the plate by the corners, and remove the paper from the back when sufficiently soaked; rinse the plate thoroughly, and, if the water is repelled as though the plate were greasy, use a wetting agent. If the tarnish on the edges is blue in color, immersion in an ordinary fixing bath will remove it; but if any bronzing is visible, make a solution of potassium cyanide, ten grains to the ounce; and keep pouring this on and off till tarnish is removed.

Wash the plate thoroughly to free from cyanide, and rinse well with distilled water. Then take hold of one corner of the plate with a pair of pliers, and dry evenly from a top corner downward over a spirit lamp or Bunsen burner. If any stain or deposit is left by unequal drying, the plate must again be rinsed with distilled water, and dried in the same way. The chief point is not to touch the plate with anything but the liquids, or a mark will be made which nothing can eradicate.

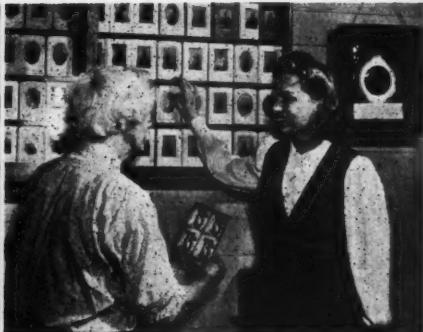


SINGER JANE PICKENS calls at the tintype studio of Charles Tremear at Greenfield Village. Musicians from Stokowski to Benny Goodman have been among the many famous subjects to pose for Tremear. For the finished tintype of Jane see the next page.

"A man cannot make a proposal or a lady decline one—a steam boiler cannot explode, or an ambitious river overflow its banks—a gardener cannot elope with an heiress, or a reverend bishop commit an indiscretion, but straightway, an officious daguerreotype will proclaim the whole affair to the world!", so said the newspaper *Christian Watchman* in 1846, heralding the approach of the "candid camera".



"HOLD RIGID for about half a minute," is Tremear's command to pose.



JANE PICKENS picks a folder for her tintype, "just like the one that Lily Pons has."



THIS IS Jane Pickens finished tintype. It has the softness and gradations that can be equalled only in more complicated transfer processes.

the Model and talking things over with her." Jane says he could give William Mortensen lessons.

The ancient camera used by Tremear is a four-lensed number that makes four shots on a single sheet of iron. It has no shutter but it has captured some striking likenesses of notables in every profession and walk of life. Tremear has one of the fastest finishing services in America—just ten minutes from "Watch the Birdie" to a mounted print in full glossy finish.

Tintypes can be made in any cut film camera. Instead of film base, thin iron is used. For this get a black ferrotypes plate from a photographic dealer. Clean it well with soap and water. Use the film used in the camera as a pattern to cut the plate to fit the holder. Then proceed with the sensitizing process given on page 66.

A skillfully made tintype has a soft tone gradation that is only equaled in bromoils and some of the other transfer processes. There is a smell of lavender and a suggestion of the long gone past that can be produced by taking costume and mood shots on tintypes that just can't be equaled any other way.

Mount the finished negative or print, they are one and the same, in a tintype case that can be made or can be picked up in a second-hand store. These silvery miniatures are well worth the time and trouble they take to make.

END



YOU CAN READ THOSE *Curves*

Written and Illustrated by Jeane Scherr

SENSITOMETRIC CURVES are infinitely useful things, which nobody will deny. But the impression has got around that a person can't read one unless he was born with a slide rule in his mouth. As a result they are not useful to enough of us.

That is a pity, because as a matter of fact those curves are as simple as ABC, when you know how to read them, and they tell everything it is possible to know about a film.

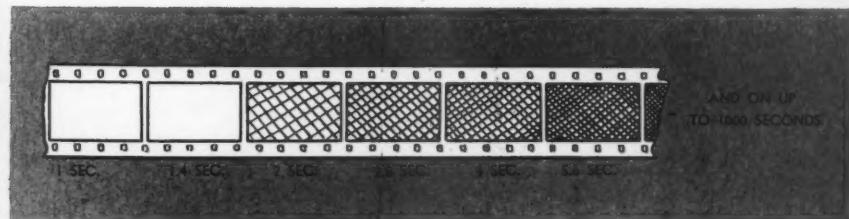
Curves are supplied by all manufacturers, either with film or in handbooks which sell at a nominal price. When a manufacturer publishes a curve he puts his cards on the table. General statements

cooked up by the advertising boys, such as *this is a high speed film of clean balanced contrast, etc.*, are out. For curves are mathematical language and say exactly what they mean.

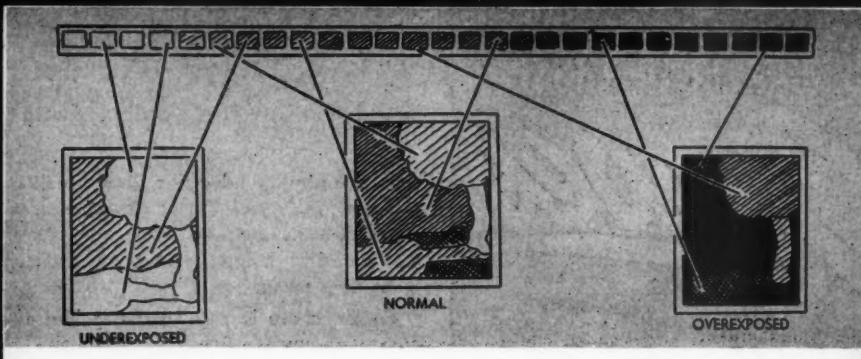
So the curve is a clean cut, coldly accurate statement of exactly what its film will give you in speed, contrast and tone relationship, with a particular developing formula, temperature and time.

The curve not only indicates whether the film is fast or slow; it shows the actual "shape" of the speed. Latitude is indicated, not as "broad" or "slight" but in its actual scope. And from a group of curves you can see just about what you get with varying development.

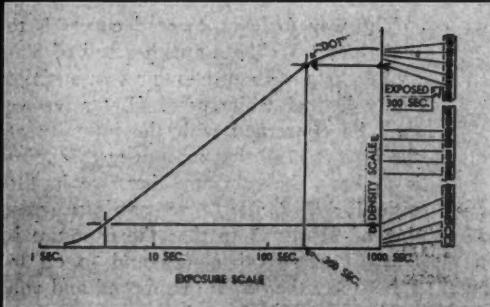
The way to learn to read curves is to make one. We'll start with a roll of film and make a series of exposures on a plain, dimly lighted white card. Later on we shall be concerned with the intensity of the light, but all that matters at this point is to have the exposures increase in the ratio 1, 1.4, 2, 2.8 (a geometric progression of 21 steps) so that the exposure is doubled every other step and so on to 1,000. Say the "1" is one second and you work up to 1,000 seconds.



WORKING FROM a geometrical progression as indicated above, this is what you'll get! A film strip that extends from clear film to "gosh-they're-black," in nice, evenly spaced densities . . . except at the extreme ends. The differences don't begin to appear until the exposure is long enough to cross the film's threshold point. They stop when the exposure is long enough to completely blacken the film. After that, longer exposures don't make it any darker.

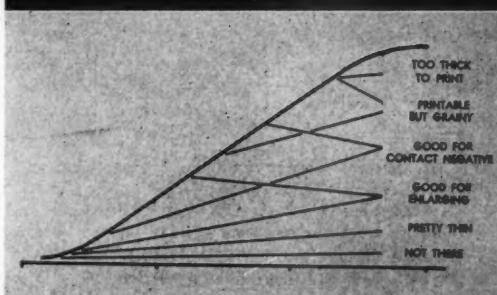


OUR FILM strip contains all the tones, or densities, in all the negatives you ever made (or ever will make). It is a complete sample kit of the densities in range of that film. The strip is a perfect chart of how that film responds to light, under varying exposures.



HERE IN rough and ready fashion you can see where negatives will be on the curve. Ordinary subjects have quite a few tones, so the types of negatives tend to overlap those on either side. This was a relative-exposure curve, made without precisely measuring the light, so it tells nothing about film speed. If you had made your film strip on a standard log-exposure basis, measuring light with a laboratory sensitometer, the film speed would have been definitely indicated and you could have compared the curve with any other log-exposure curve. That's how curves are made. Now, let's see what we can do with them.

WE CAN translate such strips into figures on criss-cross graph paper, just as we might chart a course on a map, by means of the letters and figures (coordinate) on the margin. The time-scale is at the bottom; the density-scale is upright. For every frame, we make a dot as far above the base line as the density for that frame calls for. We make the dot just above the time-scale marking corresponding to the length of the exposure of the frame. (For example, note the "dot" for the 300-second exposure). When the dots are all located, we connect them with a line. and what have we? A sensitometric curve! It's as simple as that!



(Continued on page 72)

your
modera
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and our
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Dealer.
be done

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A Graflex craftsman begins inspection of a Speed Graphic which has been sent in for reNEWal

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Today, with the increasing demands upon Graflex for equipment to aid our country's Armed Services, you can speed the Victory by preserving the inherent value of your present Graphic or Graflex Camera. Keep your camera operating and looking *like new*, at moderate cost, through the Graflex Customized reNEWal Plan.

Take your Graphic or Graflex Camera to your Graflex Dealer who will send it to us for inspection. Your camera will be examined carefully and our recommendations, together with a quotation of the cost, will be forwarded to your Dealer. If you approve, the necessary work will be done promptly by factory experts and technicians . . .

and your camera will be returned bearing our stamp of approval—the *Graflex Gold Seal*.

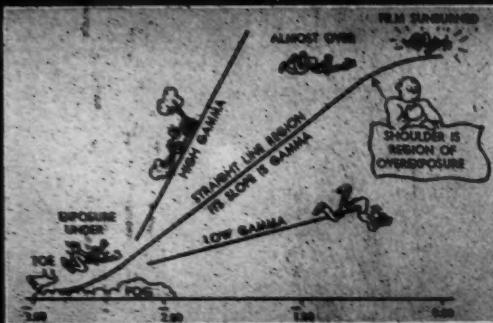
And incidentally, though Christmas seems a long way off, the finest gift you could give the owner of a Graflex-made Camera, is a reNEWal! And now is the time to have the work done. For literature further describing the Graflex Customized reNEWal Plan, see your Dealer or write to The Folmer Graflex Corporation, Dept. MC1042, Rochester, N. Y., U. S. A.

And to aid you in conserving time, materials and money in your photographic activities, get *Graphic Graflex Photography* (\$4) and *Photographic Enlarging* (\$1.95) at your camera or book store.

With Your Savings . . . Invest in America, Invest in Your Future
. . . BUY U. S. WAR BONDS!

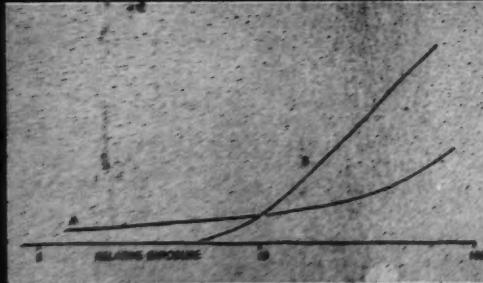
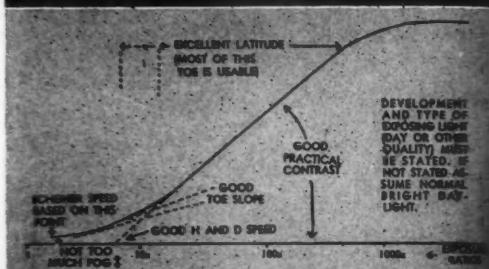
FOLMER GRAFLEX CORPORATION, ROCHESTER, N. Y., U. S. A.





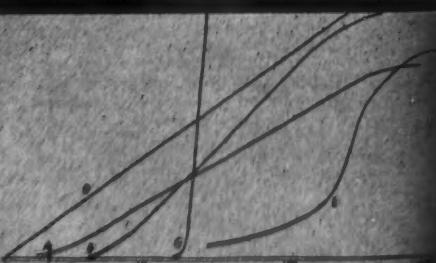
HERE IS a log-exposure curve, such as you can get at the photo store for any film. The SPEED can be told from the curve's position with reference to the markings of the base line. By noting how close the curve is to the base line of a curve, we can tell how much fog there will be in a film. The film at the toe is almost clear. Film on the shoulder is burned up. Regardless of where the curve begins, the slope of the straight line tells the CONTRAST, or gamma. (Gamma is the expert's word for degree of contrast). If the slope is more than 45 degrees, the negative contrast is higher than the subject's.

ON THE BASE line of this drawing, exposure is stated relatively, instead of in "log" values. For the curve shown, the latitude runs from about 8 to about 800, a range of 100 to 1. the curve of a very good film, long straight line, good gamma, gradual shoulder and short toe. Scheiner speeds are measured from the very tip of the toe. For practical purposes they often mean nothing. H & D and Weston ratings are computed from the "straight line extended."



EITHER OF the two films charted here might be called faster than the other. The diagram shows only the toes. Scheiner would say that A was faster. He was an astronomer, you see, and he needed only the merest trace of an image. However, you couldn't get a decent print from A in the minimum exposure region. Look at the flat slope! That means low gamma, practically no contrast, no quality. Weston would rate B the faster. B starts much later, but its toe is short and has a slope. It goes right to work!

LET'S COMPARE some films, from their curves. A is a first rate portrait film, very fast, short toe and shoulder, gradual gamma slope, which gives moderate contrast. B is a good all-around commercial film, slower than A, with more brilliant contrast. C is a fine process film, for line copying. Look how the curve shoots almost straight up, indicating extreme contrast, virtually no latitude. Note the low fog and short toe. E is not good for anything; slow, long toe, practically no straight line. And D? Now there is a dozen of 'em. Infinite speed, perfect straight line, perfect contrast, no fog, infinite latitude. END



"The Indispensable Part of My Photo Equipment"!



Berkeley, California
August 14, 1942

Weston Electrical Instrument Corporation
Newark, N. J.

Gentlemen:

Seeing your "New York City Scenes", published in recent photo papers, reminded me of the bridge pictures I recently took in Yosemite National Park, the results of which I largely attribute to my Weston Master.

The soundest advice I ever received, when taking up photography as a hobby two years ago, was to invest in a good light meter. While I can't actually shoot a picture with my Weston, it's the most indispensable part of my photographic equipment.

Few, little realize and appreciate your contribution to photography with this ingenious instrument. I should like to add my thanks and appreciation for this little helper which always seems to give me the right answers.

Very sincerely yours,

P. S. - The visual evidence is enclosed and may be disposed of in any way desired. The pictures are merely being sent along in support of my appreciation.

FGD



From all sections of the country . . . all quarters of the globe . . . come these voluntary letters acknowledging the *picture dividends* which the WESTON Master consistently provides.

While WESTON's entire resources to-day are at the command of our armed forces, the day will come when Exposure Meters will again be plentiful. And when that day arrives, the Exposure Meter bearing the name WESTON will still be *Master of them all*. Weston Electrical Instrument Corporation, 649 Frelinghuysen Avenue, Newark, New Jersey.

WESTON Exposure Meters



OUT OF THE LAB



SIMPLEST OF ALL the sepia toners is liver of sulphur. Dissolve enough to get a solution the color of weak iced tea; dunk the print in it till the tone suits you and then wash it. A few papers are slow in toning. If there is little change at the end of five minutes, wash for a few minutes and then immerse in a weak ferricyanide solution. There will be enough of the liver of sulphur carried over that the print will be both bleached and toned simultaneously. This is particularly good for papers that tend to give that unpleasant yellow tone with other methods.



Here is a practical blue toner made from gold chloride. Place well-washed black and white prints in this solution and tone for 15 to 45 minutes:

Water (125 degrees F.).....	24 ounces
Ammonium Thiocyanate	3½ ounces
or	
Sodium Thiocyanate	3¾ ounces
or	
Potassium Thiocyanate	4½ ounces
Gold Chloride, 1% solution.....	2 fl. ounces
Add cold water to make.....	
32 ounces	



Here are a couple of simplified formulae for calibrating focusing scales or figuring the bellows or lens tube extension needed for closeup focusing.
 D—Distance of object from lens
 f—focal length of your lens

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PACIFIC COAST FILM CO., 1510 N. Sierra Bonita Hollywood, Calif.

x—distance lens is to be advanced from infinity. This is of course the distance of the focusing scale mark from the infinity mark.

$$D = \frac{f}{x} + f \quad x = \frac{f}{D-f}$$

While both of these are derived from the standard formula, they are much easier to use than the usual ones.



Razed eyebrow department. After you have scorched your forehead a few times by bringing it in contact with an overheated enlarger head, you'll want to try rigging up a simple guard by bending an old coat hanger into the proper shape.



They say that the way to take the curl out of glossy prints is to pull it under a ruler or over the edge of a desk. They don't say that the cracked finish of the emulsion of a brittle print is a particularly unlovely sight. The foolproof method is to slightly moisten the backs and place the prints in a stack of plain thin cardboards, under a weight or in a press. In about four minutes time the prints should come out with a slight backward curl. They will lose the back curl and come out perfectly flat if left in for a longer time.



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ROCHESTER, N. Y.

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as their guide to better photo-
graphic values. Write for your

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Your camera can be adjusted for any exposure, but you need a light meter to tell you what the exposure should be.

The Phaeostron Model "A" will do everything more expensive meters of other manufacture will do. Rough treatment, vibration and long use will not affect upon its sturdy construction. It is absolutely unaffected by temperature or humidity. Each instrument is individually calibrated by the most accurate measuring devices known to science. All parts are fully guaranteed against defects in either materials or workmanship.

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85¢
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MOVIES PHOTOGRAPHERS SHOULD SEE

by Joseph Wechsberg

★ On an outdoors set we witnessed a scene from "*The Adventures of Mark Twain*" (Warner Bros.) which gave us a good idea about the hard life of the cameramen. In this scene Frederic March is seen standing in water up to his shoulder, as Mark Twain signing his autograph during his morning swim. Cameraman Sol Polito had to set up his camera on a few boards above the water; one assistant was hold-



ing a big screen, to take off some of the strong sunlight; other men were engaged in similar semi-dangerous activities.

"Wake Island" (Paramount) is a photographer's picture. Not less than seven cameramen are credited! They are Theodor Sparkuhl and William C. Mellor (directors of photography), Elmer Dyer and Wallace Kelley (aerial photography), Harry Hallenberger (second unit), Gordon Jennings (special effects) and Farnot Edouart (process photography). The film shows some of the most difficult action shooting that has ever been done.

There is almost continuous fighting, bombing, shooting, flying. There is not a moment's monotony and no let down in the photographic action. The miniature sets are not very convincing; but the flight sequences, the bombing of trenches, the landing of the Japs and the burial scene are realistic, grim, impressive. It's a fine, heartening, proud picture and a swell photographic job.

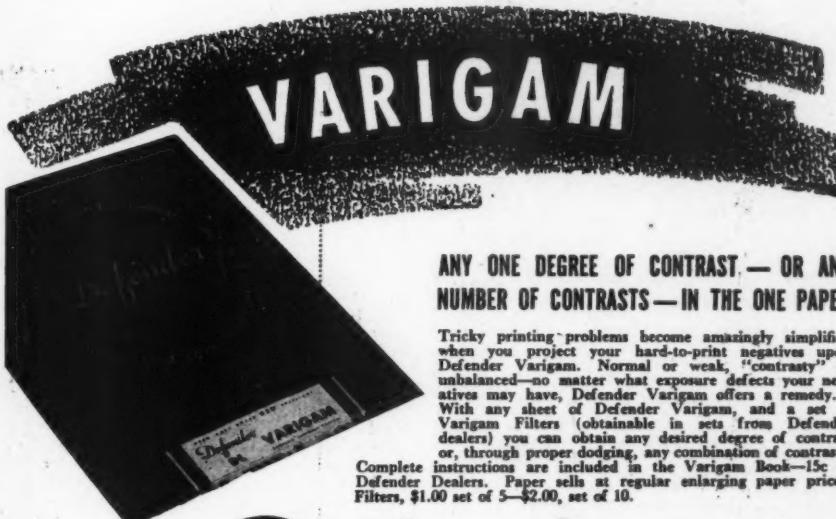
★ "The Pride of the Yankees" (Samuel Goldwyn-RKO) is one of the finest pictures of the

(Page 80, please)

SALONS AND EXHIBITS

★Follows P.S.A. Recommended Practices

Closing Date	Name of Salon	For Entry Blank, Write to	No. of Prints & Entry Fee	Dates Open to Public
October 6	★PSA Exhibit and Salon.	J. R. Gourley, 5507 Reedy Ave., Baltimore, Md.	4 \$1.00	Oct. 23-Nov. 9
October 15	New York Salon of Photography.	John W. Doscher, The Camera Club, 121 W. 48th St., New York, N. Y.	4 \$1.00	Nov. 1-30
October 15	3rd Annual Tri-State Salon of Photography, Amarillo Photographic Society.	D. W. Godsey, Secretary, Amarillo Photographic Society, 905-B Taylor St., Amarillo, Texas.	4 \$1.00	Nov. 1-15
November 2	11th Annual Salon of Photography of the Minneapolis Camera Club.	R. L. McFarran, Salon Director, Minneapolis Camera Club, 113 E. 4th St., Minneapolis, Minnesota.	4 \$1.00	Dec. 4-Jan. 3
November 5	7th Annual 100-Print Travel Salon of the Metropolitan Camera Club Council, Inc.	Francis H. Rockett, Salon Director, Metropolitan Camera Club Council, Inc., 106 W. 13th St., New York, N. Y.	4 \$1.00	.....
November 14	★Fourth Annual Salon of Cat Photography.	Mrs. A. A. Gour, 6638 Kimbark Ave., Chicago, Ill.	1 to 4 \$1.00	.....
November 14	★Sixth Southern Salon of Photography.	H. F. Meath, 33 Government Ave., Norfolk, Va.	4 \$1.00	Dec. 4-Jan. 3
December 5	5th Annual Springfield International Salon of Photography, The George Walter Vincent Smith Art Gallery.	Salon Secretary, Springfield Int'l Salon, The George Walter Vincent Smith Art Gallery, Springfield, Mass.	4 \$1.00	Jan. 2-24
December 15	The Des Moines Salon of Photography.	Walter Vittum, Y.M.C.A., Des Moines, Iowa.	4 \$1.00	Jan. 1-22
February 2, 1943	10th International Salon of the Pictorial Photographers of America.	John J. Jocking, Salon Secretary, 715 E. 226th St., Bronx, New York.	....	March 1-21



ANY ONE DEGREE OF CONTRAST — OR ANY NUMBER OF CONTRASTS — IN THE ONE PAPER

Tricky printing problems become amazingly simplified when you project your hard-to-print negatives upon Defender Varigam. Normal or weak, "contrasty" or unbalanced—no matter what exposure defects your negatives may have, Defender Varigam offers a remedy. With any sheet of Defender Varigam, and a set of Varigam Filters (obtainable in sets from Defender dealers) you can obtain any desired degree of contrast or, through proper dodging, any combination of contrasts. Complete instructions are included in the Varigam Book—15¢ at Defender Dealers. Paper sells at regular enlarging paper prices. Filters, \$1.00 set of 5—\$2.00, set of 10.

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"THE PAPER THAT GIVES COMPLETE CONTRAST CONTROL"

★ INSIDE Hollywood

By DON M. PAUL

WARNER BROTHERS' photogs plastered a large sign saying "Duce bulbs" on a supply bin. It is filled with flash, flood and incandescent bulbs. Those that are not shot are simply burned out.

HORSE OPERA photogs, who take those fantastic shots of cattle rushing toward and over the camera, have no soft cinch. Often cinematographers operate their cameras by remote control, but Russell Harlan and Archie Stout of Paramount take no chances on losing scenic action while shooting the new movie, "American Empire." While hundreds of stampeded cattle rush at them, they stand beside their cameras and catch every bit of action. Harlan is buried in a hay fort covered with sharp-pointed brush, while the angry herd parts and passes on both sides of the structure. Stout, standing upright in a trench, with a steel helmet to protect his head, shoots upwards at the pounding hooves of the herd. Both keep praying as they shoot.

WETTING AGENTS were discussed when a group of movie pioneers held a recent chin-session. We sat and listened in disbelief. The benefits of wetting agents, we learned, have long been known to movie laboratory technicians. The formula, though, is cheap as mud—three drops of Drene shampoo to every sixteen ounces of water.

WILL PRICE, dialogue director at 20th Century Fox, and husband of Maureen O'Hara, is an avid 16mm movie fan. For the fun of it, he planned and shot a 16mm film entitled "How to Keep Your Dog Happy," using Maureen and her dog as stars. The studio saw the film and decided that Will proved his ability to direct regular productions. His first assignment as full director means turning the megaphone on his wife, but this time on the Fox lot.

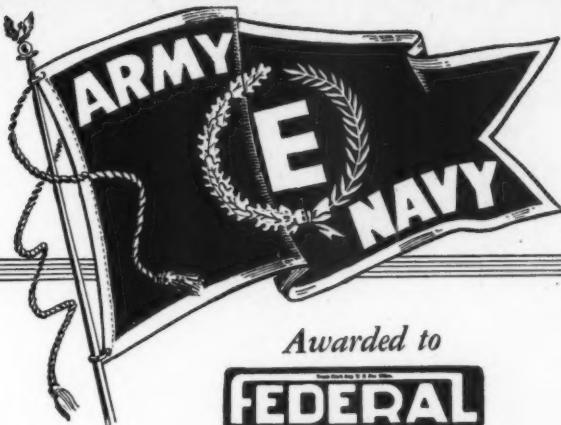
AS WOMEN COME INTO their own in photography due to male shortages in picture taking, Mildred Greene, professional cinematographer, has the jump on the country's gal photogs. Mildred has been shooting 16mm industrial motion pictures in color and black-and-white for years.

Competition has been tough, but she has developed a distinctive style and some fine techniques. A recently completed 1200-foot color assignment for American Can Company just sold for a healthy figure. Assignments keep piling up and the field looks big enough for many more women. Mildred is believed to be the only independent woman commercial cinematographer in the country. This is apparently the time for all good women photographers to come to the aid of their country.

THE USE OF new photographic tricks in Paramount's "Reap the Wild Wind" makes the picture well worth seeing. Underwater scenes were photographed partly on the floor of the Pacific off Catalina Island, and partly in a huge 1,000,000 gallon tank that was specially built for the picture at the Pacific Marine Museum in Santa



Monica. In the tank shots, several hundred brilliantly colored tropical fish, several small sharks and a baby manta ray were used. Most camera shots were taken from behind glass, twenty and thirty feet underwater, but in several instances both cinematographers and still men went down in diving suits with special protective devices on the camera, and shot according to telephoned orders from Producer Cecil B. DeMille. Stillman Don English of Paramount caught a couple of honeys. In one, John Wayne prepares to fight off a giant squid. In the other he fights the squid. Both shots were taken under water, polarized filters cutting some of the glare and water warp. The squid has a ten foot body, sixty-foot spread, and eight inch eyes. It is a vicious animal which actually fights men but it is not alive, nor is it really an animal. It was made of rubber and copper tubing, is radio controlled, acts exactly as does a real squid, and scares the life out of the audience. Even the cameramen had to beware of it. One mistaken swing of a twenty-foot tentacle, and a camera would go smash!



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OCTOBER CONTEST CALENDAR

Open to	Subjects	Prizes	For copy of rules, write to	Contest closes
Amateurs	National War Poster Competition.	\$8-\$300 War Bonds.	National War Poster Competition, c/o Artists For Victory, Inc., 101 Park Ave., New York, N. Y.	Oct. 15
Amateurs	Photographs must dramatize some phase of our civilian war effort.	\$500 War Bonds awarded every month.	Victory Photo Contest, Victory House, Pershing Sq., Los Angeles, Cal.	Last day each month.
Press Photographers	Men in the news smoking cigars.	\$50, \$25, five prizes of \$20, five of \$10. Silver and bronze medallions.	Cigar Institute of America, 630 5th Ave., New York, N. Y.	Dec. 31
Amateurs	Any	\$25 in awards, including three \$5 prizes weekly.	Camera Contest Editor, Chicago Herald-American, 326 W. Madison St., Chicago, Ill.	Weekly
Amateurs	Any. Awards based on subject interest and initial impact.	\$10, \$5, \$4, \$3.	Mechanix Illustrated, 1501 Broadway, N.Y.C.	24th of each month.

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25c

Movies Photographers Should See

(Continued from page 76)

year. The photography by Rudy Maté is exceptional. Never has baseball appeared as such a "photogenic" sport. However, it is not only the baseball sequences which make this picture a "must" for every photographer.

This is one of the few, outstanding camera achievements where photography is so good that you simply won't become aware of it. The approach is realistic throughout; and Maté succeeds in building up an emotional climax which will be remembered for a long time.

* On the set of "Desert Song" (Warner Bros.) director of photography Bert Glennon discussed some aspects of color-shooting. Contrary to popular opinion, he feels Technicolor work is much easier than black-and-white shooting. The glamourizing effects of color film and the softer lighting conceal wrinkles and lines under the eyes which would be visible on black-and-white film under similar conditions.

Says Glennon, "All you can do in black-and-white is to balance your lighting and your tonal shades. Shooting in color brings in an entirely new medium. Once you have achieved a thorough control of the colors to be used on each player and on every detail of the set, half of your work is done.

"Color-shooting makes the camera-man an expert in hue and complexion. You know that you can't allow an extra girl to wear a conspicuous yellow blouse which would outdo the star's dress and attract the public's attention from the main subject. Composition becomes all-important. As to the narrower range of ex-



posure, this is no serious prob'lem, since we never had trouble about exposure."

Most outdoor shots were made in the desert of New Mexico, where a complete Morocco village was built with all the intricate accessories of modern movie shooting.

And don't miss: "Somewhere I'll Find You," "Footlight Serenade," "The Gay Sisters," "The Pied Piper." END

Now**PRODUCTS****MOVIES GO TO WAR**

No group of people is as well informed about the war as we Americans. We know about every battle front, every loss, and every gain as long as revealing this information doesn't aid our enemy. At home, too, we have the democratic right to ask exactly how our money is being spent. In fact the government has set up a special Office of War Information under the direction of Elmer Davis whose purpose it is to give Americans information regarding the progress of our war effort. We are getting a play-by-play description of how we are preparing ourselves to lick the enemy.



Newest contribution of the OWI is a series of films showing the manufacture of tanks and airplanes, and how women are playing a major role in defense. Following is the list of these sound movies:

		16 mm Footage	Price (including rental fees)
G-1	Aluminum	350	\$7.20
G-2	Bomber	375	7.70
G-3	Building A Bomber	700	14.97
G-4	Tanks	375	7.70
G-5	Building A Tank	725	15.47
G-6	Power For Defense	400	8.20
G-7	Ring Of Steel	325	6.70
G-8	Lake Carrier	325	6.70
G-9	Women In Defense	400	8.20
G-10	Anchors Aweigh	125	2.60
G-11	Keep 'em Rolling	125	2.60
G-12	Caissons Go Rolling Along	125	2.60

Katherine Hepburn, Spencer Tracy, Orson Welles, and Frederic March are commentators on some of these films.

Prices are exceptionally low to make it easier for schools, libraries, and service group organizations to purchase them. The films are distributed by Castle Films, 30 Rockefeller Plaza, New York City.

COPELAND SUPER-VIEWER

The Copeland Super-Viewer, manufactured by Barnett Laboratories, 160 N. Wells St., Chicago, Ill., gives the kodachrome fan a remarkably clear and enlarged image of the transparency.

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For further information write Barnett Laboratories.

BICO TRIPOD CARRYING CASES

A complete assortment of carrying cases for tripods is offered by the L. R. Biber Co., Times Bldg., Times Square, New York, N. Y.



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Spiratone Fine Grain Laboratories, 49-55 W. 27th St., New York, N. Y., takes pride in the fine modern equipment they have for processing film. Because they take a more personal interest in their work, they are able to turn out extremely fine negatives and prints.

ALBUM TAKES 250 PRINTS

The new Holsons album, manufactured by Holsons Binders, 127 W. 26th St., New York, N. Y. takes from 150 to 250 snapshots of all sizes up to 8x10.

Prints fit into slots without using adhesives. Covered with imitation leather, pages are cloth-edged to prevent buckling.

CASTLE OFFERS VARIETY OF FILMS

Several interesting releases are announced by Castle Films, Inc., 30 Rockefeller Plaza, New York, N. Y. Feature attractions are two new civilian defense movies—"Air Raid Warning" and "The Civilian Serves." Both are available in 8mm., 16mm., and 16mm. sound-on-film.

Other releases are "Sport Spellbinders," a sports-action short; "Little Black Sambo"; and "The Headless Horseman."

"Fight for Egypt" is the latest war film. It is acclaimed by Castle's own staff to be the "most remarkable action photography" to come from any battle front.

More on the calmer side is "African Pygmy Thrills," an interesting film showing how a tribe of African pygmies bridges a crocodile-infested river. The bridge is 173 feet long and some 50 feet above the river.

LIQUID FLEMISH TONER

Liquid Flemish Toner, of the concentrated Selenium type, is announced by Agfa Ansco to take the place of Agfa Ansco Flemish Toner. Two main advantages of liquid toner are achieved—shorter toning times and better exhaustion characteristics.

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Agfa's Concentrated Selenium Toner is packaged in 8 and 32-oz. bottles selling for \$1.00 and \$2.25 respectively.

UNIFLASH NOW \$3.98

Universal Camera Corp., 28 W. 23rd St., New York, N. Y., needs more space for war work so amateur camera fans are benefiting.

The firm is selling their entire stock of Uni-flash camera for \$3.98 each. The camera sold formerly for \$5.50. Space taken up by these cameras will be used for war production.

ARGUS C-3 CASE

A special Argus C-3 carrying case, distributed by Miller Outcalt Co., 1046 So. Olive St., Los Angeles, Cal., holds flashgun, bulbs, and reflector in addition to the camera.

Measuring 7x9½x2½, the case is sturdy, constructed of 3-ply wood, covered with tan leatherette, lined with heavy plush and equipped with carrying handle. Retail price is \$8.00.

PHOTRIX RETOUCHING SET

The Photrix retouching set consists of two ½-oz. bottles of Photrix Analyne Dye in neutral grey and sepia shade, and one bottle of retouching dye remover. These dyes can be used for retouching films and plates, and also for spotting on paper prints. Price is \$1.50.

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Visual Art Service, 112 West 34th St., New York, N. Y., introduces to the Kodachrome slide enthusiast a compilation of 1,000 transparencies in cardboard ready-mounts. Each of the subjects, with the exception of art masterpieces, has been photographed in natural color.

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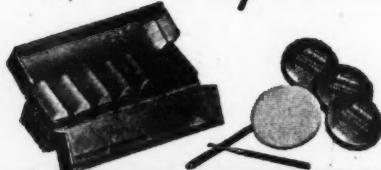
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Post Pictures Film Catalogue

Schools, churches, social clubs and home movie enthusiasts will be happy to learn that Post Pictures Corp., 723 Seventh Avenue, New York, N. Y., issues a catalogue listing 16mm. sound films—shorts and features—for non-theatrical use.

Special attention is called to a group of films including "Flip the Frog," "Poetic Gems," "Mickey McGuire Comedies" and others which are offered at new low prices.

The catalogue can be obtained by writing Post Pictures Corp.

Fire Fighters Film

"Shock Troops For Defense," a one-reel production, is ready for immediate release. The picture is the first in the Brandon production schedule of "Films to Help Win the War," which will be released under the series title, "America Calling!"

The film was made in cooperation with the Civilian Defense Volunteer Office of Greater New York and the Fire Department of the City of New York. It dramatizes the urgent need for voluntary fire-fighters. The picture also portrays the nature of the training and the role of the Auxiliary Fire Fighter. It is designed to be of practical assistance for developing widespread voluntary participation in the Civilian Defense Program.

An informative folder will be sent, free of charge, to those who write to Brandon Films Inc., 1600 Broadway, New York City.

Gem Trimming Board

Gem Photo Supply Co., Inc., has been appointed Eastern Sales Representative for the Scientific Trimming Board, a modern improved trimming board with special patented features such as an adjustable sliding guide which is easily and accurately regulated to accommodate any size paper.

The board is made of the finest quality birch, brightly finished in navy blue and has heavy white measuring markers which make it easy to read in the darkroom. It features a special safety "no-drop" knife, which allows freedom of both hands and prevents accidental injuries. Available in 8", 10" and 12" sizes. Prices and other information may be obtained from the Gem Photo Supply Co., Inc., 1974 Broadway, New York, N. Y.

"FLIP THE FROG"

A series of six animated cartoons, featuring the popular and humorous "Flip the Frog," has been released by Official Films, Inc., 425 Fourth Ave., New York, N. Y.

"Jail Birds," "Movie Mad," "The Village Barber," "Stormy Seas," "The Cuckoo Murder

Case," and "The Village Smitty," the six releases, are available in the following sizes: 8mm. Short, \$1.75; 8mm. Feature, \$5.50; 16mm. Short, \$2.75; 16mm. Feature, \$8.75; 16mm. Sound-on-film, \$17.50.

"Wings for Victory," a drama of the arctic air lanes, is a truly fine film showing Canada's conquest of the frozen north through air power. This film is available in feature lengths only—8mm. \$5.50; 16mm. \$8.75, and 16mm. Sound, \$17.50.

Photoflash Lamps of Plastic

Photoflash lamps in envelopes of transparent plastic, instead of the usual glass bulbs, are the subject of two patents, Nos. 2,277,481 and 2,277,482, issued to a Hungarian inventor, Michael J. Neumann de Margitta of Budapest, who has assigned rights in this country to the Westinghouse Electric and Manufacturing Company. In the second of his patents, the inventor departs from the customary shape and makes his flash lamp square, about the size and shape of a two-cracker sandwich, for greater convenience in carrying in pocket or handbag.

Among the advantages claimed for the new photo flash lamps are immunity to breakage when a lot of them are dumped loosely together and given rough carriage, and impossibility of exploding as glass flash lamps sometimes do. The latter property is obtained by choosing a plastic with a relatively low melting point, so that it becomes soft and loses what little brittleness it has when the flash charge within is ignited.

CROPPING KODACOLOR PRINTS

Good news is that Kodacolor Film may be cropped during enlargement. The service starts immediately. To crop a negative all you have to do is indicate the area to be printed by outlining it with scotch tape placed on the base (glossy side) of the film. The photographic dealer will send the negative to Rochester.

The charge for cropping is 20c for each print, but there is no additional charge for more prints of the same negative. Negatives must be cropped to certain proportions. There are many proportions so we suggest you see your dealer about them.

Battery Case-Reflector Combination

A new Battery Case-Reflector Combination, announced by Crown Instrument Corp., 92 Liberty Street, New York, N. Y., will augment the Crown Cableflash, previously sold as a separate synchronizer. With connecting cord, the price is \$4.45.

The blank plastic case uses four penlite cells, loaded like cartridges in a revolver. The total six volts takes up no more space than the usual 1/2 volt cell. The case is only 30 inches long, weighs but six ounces.

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Kodak Model K.....	42.50	
Cine Kodascope Model 10, Mod. 90.....	165.00	
Kodak E-11, F 3.5.....	64.50	
Kodak Companion F 3.5.....	52.50	
General M. Eng. Model.....	181.00	
Orion 16mm, \$125.00.....	110.00	
Amico Technika 8mm, Tessar 4.5, \$145.00.....	110.00	
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To save tires, gas, and to keep overtime production running smoothly, Ampro Corp., 2839-51 North Western Ave., Chicago, Ill., cancelled their annual picnic. Instead, money that would have been used for the picnic has been distributed among employees in the form of war bonds.



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The Model Wore Glasses

(Continued from page 17)

to light penetration (from 6% to 10%).

Polaroid lenses reduce reflections and glare. Coating the lenses chemically reduces reflections. Both of these methods only reduce, but do not entirely eliminate reflections.

Remember, here is the important point—both of these methods only reduce, but do not entirely eliminate reflections.

5. Concave lenses reflect much less light than any other type. They are like those invisible-glass shop windows that are so easy to look through. Unfortunately, you will scarcely ever find a subject who wears them. They would be the ideal glasses for studio props.

6. Light colored transparent frames are the most flattering in portraiture. They do pick up some highlights, on the frames but these highlights only add a certain sparkle to the *tout ensemble*.

FINAL AXIOM: Raise the front lights to avoid reflections, don't move them to the side. **END**



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CAMERA CLUB

NEWS AND IDEAS

VACATIONS ARE OVER, so let's all get down to the serious work of getting our clubs re-organized for fall and winter activities. Some clubs were hit so hard by Uncle Sam's call for men, they suspended meetings for the duration. Others are disheartened at the lack of interest of fellow members. The truth is that every club will have to make every effort to get new members and make meetings more interesting. Any ideas you have for making better meetings will be appreciated by other clubs, so send your suggestions to us now. We will be glad to pass them on.



WINNER of this month's photo contest is Bert Lee, 111½ W. 42nd Pl., Los Angeles, Calif. His picture, "Queen King Ace," was shot with a Speed Graphic on Isopan film at 1/50th, f. 16, using one G.E. No. 5 bulb. A \$5.00 War Stamp is being sent him immediately. Gene Acker took down the second prize of \$2.50. He lives at 4505 S. Van Ness Ave., Los Angeles, Calif. His print, a self-portrait, was shot with a Speed Graphic, using superpan film, and printed on Defender varigram paper. He used two No. 5 bulbs.

P. S.—Los Angeles seems to be beating the rest of you fellows to the prizes. Let's have more this month from all over the country. There's no entry fee. Only requirement is that you belong to a camera club.



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THE PHOTO LEAGUE in New York City has a splendid idea for selling members' prints. Every once in a while a buyer stops at the club's headquarters hoping to find some print he can use for a display, advertisement, or promotion piece. Members are urged to leave prints they want to sell in the club's new file. The buyer can look through these prints at one sitting instead of having to wait for members to bring in their prints. Of course, the buyer doesn't have much time to waste anyway. If your club members want to sell their prints you might create the same set-up.

THE FOOTHILLS CAMERA CLUB, P. O. Box 69, Pasadena, Calif., would like to exchange with other camera clubs, either a salon print or a prize winner of a monthly competition. Here's a good chance to see what your neighbor is doing.

THREE RINGS ARE PUNCHED in the Richmond Camera Club *Bulletin*, so members can insert each issue in a regular school binder.

WAR SAVINGS BONDS having a maturity value of \$5,125, will be prizes for the American Red Cross photographic contest starting October 1 and ending December 31. There will be two classes of awards, monthly and grand. Photographs must portray Red Cross activities, or be artistic photographs symbolizing its spirit. There will be 122 prizes—36 every month for three months (October, November, December), and 14 grand prizes. Mail all prints to Director, American Red Cross Photo Awards, 598 Madison Ave., New York, N. Y. You should save your negative.

There are several other details of the contest. We suggest you write us for them, if you are interested.

A CLEVER QUOTE from the Association *News*, published by the Chicago Area Camera Clubs' Association, is: "What do you mean you haven't time to take pictures? Surely you can spare a hundredth of a second occasionally, can't you?"

• QUIZ PROGRAM. How about a quiz program such as *Information Please*? Have three or four leading photographers in your vicinity answer all questions brought in by club members. You might even want to go so far as to give the originator of a question which be-fuddles the judge 10 cents, or better still, a defense stamp.

Besides learning a lot about photography, a good time will be had by all.

ROOM FOR EVERYTHING

Newest addition to Frank A. Emmet's line of carrying cases is one for the Speed Graphic. There is room for a reflector, bulbs, films, and other accessories besides the camera. It accommodates sizes 4x5, 3 1/4x4 1/4, and 2 1/4x3 1/4; and is made of California Saddle Leather, hand stitched. Size is 20x10 1/4x8 1/4".

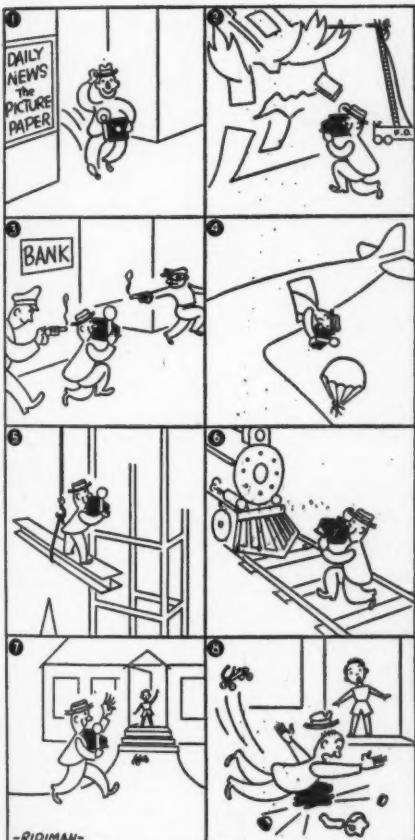
For price and further information write Frank A. Emmet Co., 1264 S. Fedora St., Los Angeles, California.

GADGETS, KINKS AND SHORT CUTS

Remove Print Spots With Sandpaper

There are many ways of removing black "pinhole" spots from prints, from retouching the negative to eliminate the cause, down through bleaching the offending spot with ferricyanide and hypo.

Here is a simple way to remove the spots. Tear the corner from a piece of very fine sand paper or emery cloth (the kind you use to sharpen your retouching pencils is just about right) and fold it into a triangle. Hold the little triangle between thumb and forefinger, pointed end down, and abrade the spot ever so lightly, working back and forth or 'round and 'round until it disappears. Remember easy does it! Too much pressure or too much haste may destroy the emulsion and spoil everything.



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3/4 x 3/4 Zeiss Ikonta C, Sp., F2.8 Tessar, Compur	57.50
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It may be possible for you to wear away just enough of the spot to match the surrounding area, but you'll probably find it easier to eliminate the spot completely and later darken it to the proper shade with pencil or spotting colors.—K. S. Johnstone.

Selling "Gadget" Items

You may have a worthwhile photo subj ct somewhere in your darkroom! Most of us have worked out some slight modifications somewhere along the line that enables us to do our picture-making better, cheaper or quicker.

Photograph one of these short cuts so that the idea behind it will be shown as clearly as if it were on a billboard. Write a brief note telling what the photograph is all about, presenting all the information that could not be shown in the picture. Then send the photograph and its caption to the editor of a photography magazine or one of the many invention and homecraft magazines. If the idea is good you may receive a check for your work.

Backgrounds must be kept as unobtrusive as possible. If you are photographing a large piece of equipment, push it against a blank wall or use a large panel of wallboard to hide its normal background. I have three backgrounds to be used when photographing small objects. The first is ordinary black building paper stretched flat over a large cake board. It is used for medium sized objects. The other two are large sheets of cardboard, one green and one white, used with very small objects and according to the tone of the background wanted. These sheets are held perfectly flat on a drawing board by strips of adhesive tape.

Here is an illustration from the series "How to Make an Inexpensive Filter Holder," which I sold. The photo shows a len's tube being attached.

It is best to use an abundance of light. For small objects I prefer to use a small flash bulb in a deep cupped reflector held close enough to the subject so that its light will be concentrated on the main objects, and the corners of the print area will be in shadow. If you use a flood bulb, get it in close. On large objects, use two lights and balance their intensity so the shadows will be washed out. A sheet of glossy white cardboard used as a reflector for the shadow side will keep round objects from looking too flat.

Photograph your subject as if it were actually being used. Gadget pictures tell the story best when they show hands using the gadget. Tiny objects should be held in a hand so as to give an indication of their relative size.

There are a lot of good ideas floating around your darkroom and home. Why not pan 'em for pay dirt?—Eugene Wyble.

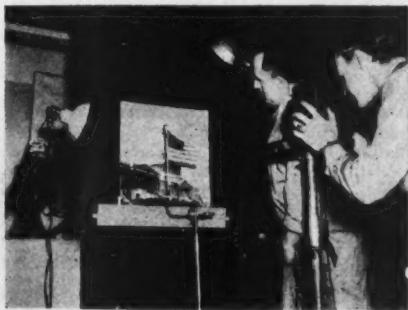


Using Extra Bromide

It is a common practice among professional photographers to keep bottles of certain chemicals handy on the shelves to produce extra results in developing. The use of potassium bromide in 10 per cent solution is probably the most widely used. The 10% solution is made simply by dissolving one ounce of Potassium Bromide crystals in 10 oz. of water. For use, the bromide is added to working developers (which already contain the minimum amount of bromide) a few drops, up to a few drams per quart of working solution. This produces warmer tones as the amount is increased, on any type of paper being developed. Bromide prevents fogging of out-dated paper to a certain extent. It will keep highlights clear on prints that might need forcing. Since Bromide is a retaining agent, prints will take slightly longer to develop than in an untreated developer, thereby producing more brilliancy in prints, by allowing blacks to develop more fully.

Patriotic Flag Pictures

A wind swept flag can be added to any scene. A small flag, in proportion to the picture is placed in front of a print. The lights should be on an angle to eliminate the shadow of the



flag in the picture. An electric fan is used to keep the flag flying, and the picture is taken with a fast shutter speed so that the action is stopped, but the flag appears to be in motion. Any large photograph may be used as a background, but the flag must be in true proportions.—*Seidman Photo Service*.

Folio for Mounted Prints

A Salon Folio to protect mounted prints is simple, and inexpensive to make. The folio is made of two pieces of cardboard, the same size as the mounts, two pieces of cloth that are two inches bigger than the mounts, and two pieces of wrapping paper $\frac{1}{2}$ inch smaller than the mounts, to cover the inner surfaces of the folio.

Tapes to hold the folio together may be made of cotton binding in a shade to contrast with

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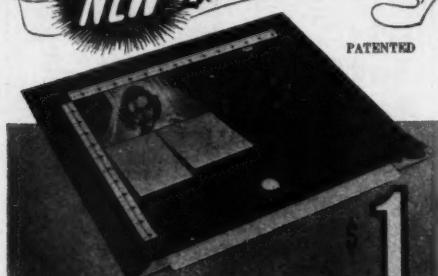
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the cloth. One folder takes three yards of binding.



First paste the cloth squares over the cardboard, sized to fit the salon mounts, with even amounts of cloth overlapping on all sides. A good paste to use is a home-made starch paste prepared like a thick starch used for laundering.

When the cloth is pasted on, turn the cardboard over, and paste down the corners, making a bookbinder's corner. The cardboard will begin to curl. To neutralize this, apply a thin coating of paste to the inner surface of the folio sections, and attach the pieces of wrapping paper. This will neutralize the curl and the folio will dry in about an hour.

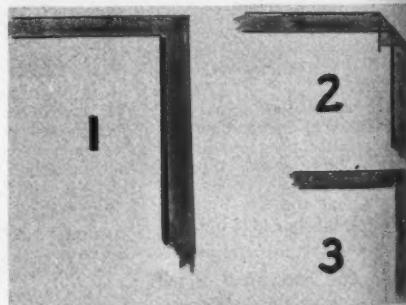


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After the folio is dry, cut ten slots in each side as shown in the photograph. Each slot should be 1/4 inch high and 2 inches long. Thread the binding tape through the slots. The folio is now ready to hold up to fifty prints. When storing mounted prints in the folio, draw the tapes tight and tie them in a bow.

Cotton material is used to cover the folio. To make a permanent washable surface, give it a coat or two of shellac.—S. Sameith.

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ROCHESTER PHOTO SUPPLY CO., at Tulsa, Okla., has several new Argoflash, Argus C-3's, and Argoflex Cameras for sale or trade.

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PHOTOGRAPHIC XMA3 CARDS made from your snapshot negative, 25 for \$1.00. Send negative, 3c stamp for free sample, price list, and choice of sentiments. Return of negative guaranteed. Photo-Electro Lab., Box 861, Bridgeport, Conn.

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SALESMAN ENTERS NAVY

Fred Garretson, popular sales representative from Defender Photo Supply's New York office, has been assigned to active duty at the Naval Air Station, Pensacola, Florida.



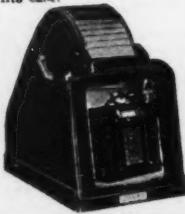


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WITH ANY KODAK
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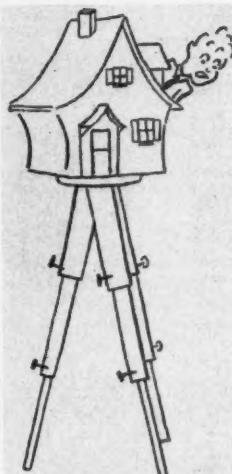
Your 35 mm. roll film grain processed and each exposure enlarged to 2 1/4" x 2 1/4" on deckled-edged gloss or matte paper—**\$1.00.** We reload your cartridges with Eastman Film for **\$0.50.**

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24 Hour Service

MORE FACT THAN FANCY

By Paul Hopkins



ought to be able to carry less than a pack horse load."



of a large daily newspaper to the size of a cigarette package.

George Eastman said at one time: "In those days (of wet photography) my outfit, which included only the essentials, had in it a camera about the size of a soap box, a tripod which was strong and heavy enough to support a bungalow, a big plate-holder, a dark tent, a nitrate bath, and a container for water. The bulk of the paraphernalia worried me. It seemed that one

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Home life of an octopus exposed! Photos have been made of the ocean floor at depths varying from 125 feet to nearly 3000 feet by lowering a small hand camera equipped with flash lamps to a constant distance from the bottom. Who knows but that pictures of Davy Jones' locker will soon be seen in the salons?

Many of the gadgets we now use in our darkrooms, such as rollers and graduates, are practically the same as they were 100 years ago when photography first began. But others have changed radically—witness the antiquated wet-plate holder and the early darkroom lantern.

Besides Army Air Corps innovations of a pneumatic darkroom tent and darkroom trailers, they have developed a technique of processing film and making prints in a specially equipped airplane so that a dry print can be dropped to the ground within three minutes after the picture has been taken.

When aerial gun cameras were first introduced, it was necessary to remove the machine gun itself so that the camera could be mounted directly in its place. Today's cameras are placed in line with the gunsights in a manner that the plane may carry its full quota of guns in addition to its recording device. The camera works simultaneously with the guns to protect the combat. If in this manner directly on the is usually a unless the opposing plane is coming directly toward or away from the gun sights. This is because in "angle shots" the pilot must take sufficient "lead" in aiming his gun ahead of a swiftly moving enemy plane.



Probably the longest photographic exposure to be recorded lasted nearly 100 years! Light passed through a painting of the Duke of Hamilton and bleached the backing paper to form a photograph. This was found in 1799, nearly 100 years after the original painting had been made.

The U. S. Army Signal Corps produces so much motion-picture film in the field for visual education purposes that the total footage compares to the production footage of any of the large Hollywood studios, such as Warner Brothers, Paramount or Metro-Goldwyn-Mayer.

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Your films carefully developed in the finest of finegrain paper—**VAPORATED**—and enlarged on Eastman's finest paper. Absolute satisfaction guaranteed. Here is our "get acquainted" offer: 18-Exposure Films developed and enlarged to 3 1/4 x 4 1/4..... \$0.50
36-Exposure Films developed and enlarged to 3 1/4 x 4 1/4..... 1.00
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a word, see page 93.

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(New but edges very slightly chipped)

For copying, ultra closeup shots, macrophotography, portraiture of babies and small pets, experimental optics, and for making a two power f/16 telephoto lens, Kodakmatic Viewer, Stereoscopic viewer, ground glass and enlarging focusing aides. 8 power telescope, pocketscope and for many other uses. Focal lengths 1 to 16 inches. Made of optical glass and finely ground and polished. Ten pages of plans and directions included. Satisfaction positively guaranteed.

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Index to Minicam Photography

INDEX FOR VOLUME 4 still available. This covers issues from September, 1940, to August, 1941, inclusive. Articles are indexed by subject and author for reference. Send 10c in coin or stamps for INDEX.

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**35mm.
ROLLS DEVELOPED FREE**

Pay only for what you get. Maximum charge 36 Exp. - \$1.00. 18 Exp. - 60c. Unives - \$1.50. Our rate is 4c per print. If less than 25 negatives are good we issue credit per print. Enlarged to 3½x4½ with Photo-Electric Eye. Velox paper only. High class work guaranteed. D. K. 20. Fine Grains. Developing. 24 Hour Service. Guaranteed. SAVE MONEY. Send roll and \$1.00 today. (Or, send C. O. D. plus postage.)

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A Filing System that Works

(Continued from page 62)

modest collection and quite an impressive array of subjects in each picture. The papermill showed gadgets of power transmission, working conditions, boilers, water wheels. The monk in his studio, if analyzed in all detail, gave evidence of writing materials, 1400 A. D. the ecclesiastical costume and a variety of other topics. A print showing a medieval spa revealed all kinds of conveying devices for the sick crutches, doctors.

Soon I was at work on a new kind of an index. I made miniature prints of each frame and started analyzing the copies. All films were arranged in strict numerical order. The pictured index card received the same number. One print might show pictorial evidence of five different subjects, which I listed in turn on individual subject cards. When looking for modes of power transmission in the olden days I have merely to look up my subject cards. I am referred to the card number of the old paper mill and other films that have a bearing on this subject.

It looks like a dream today, and not nightmarish one entirely, from the 5x cardboard box to my Archive of 50,000 photo-prints with more than 200,000 subject entries.

I have traveled all over the world in search of prints recording man's daily life. There has been a great temptation of being carried away by the collector's zeal to gather and worry about the organization later. I have tried to keep the reins tight—not issuing a shooting permit to myself for the next film until the last one is thoroughly digested.

Systematic Exhibiting

(Continued from page 35)

In approved national and international open-jury salons (anyone, anywhere, may enter), it is next to impossible to predict the action of the people serving on juries. It is, however, advisable to know

track of the individual jurors and of each salon entered, noting which of your pictures were accepted and which were rejected, gradually building up a file of information of both judges and exhibitions. This will be helpful in determining which of your pictures to send to a particular salon. It will tell exactly where each of your pictures is. It will also give a complete record of your percentage averages and eliminate mistakes such as sending accepted pictures to the same salon in a succeeding year—a breach of salon rules.

An ideal filing system can be easily made out of a card file (Fig. 1), which should be divided into three sections: one for the chronological listing of the salons entered; the second for an alphabetical list of judges; and a third that will tabulate the record of acceptance and rejections of each print.

Since jurors often serve repeatedly on different salons, simply look up which of your prints were accepted by these judges on previous occasions, (Fig. 2), when a new entry blank arrives. If the same prints are submitted, chances are that they will have a good opportunity of being selected again. On the other hand, if your prints are viewed by judges whose names are not in your file, send those prints which have had the highest percentage of acceptances. For example, it can be easily seen from Fig. 3 that "Rocky Landscape" has a record of 71% and would be a better print to include in a group of four prints than would "Nude Study," whose acceptance record has been low in comparison to the total number of times it has been submitted.

Make prints from four to six good negatives, six to eight prints from each negative. At a maximum, this would mean forty-eight prints, but if these are spaced properly in ten or twelve appropriate salons, as they appeared on the various salon calendars, they could be used over a period of three or more years without duplicating a set of prints in the same salon.

END

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3 volume De Luxe Library Series, holds 18 200-ft., 8-mm reels. Black or brown carrying case with swivel hinge front cover. Dustproof. Removable index. Complete with 18 plastic reels and case, \$16.75; without reels, \$10. Individual Files hold 6 200-ft., 8-mm reels. Complete with 6 plastic reels, \$4.75; without reels, \$2.50.

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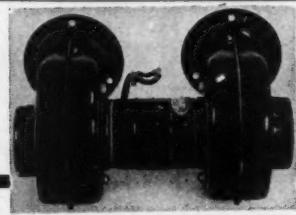
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Films fine grain developed, enlarged to give contact quality Prompt Service. Send roll and money today. ALL REPRINTS 3c EACH. VAPORATED—10c Addl. Per Roll.

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Book Reviews

EASTMAN MOTION PICTURE FILMS FOR PROFESSIONAL USE. Published by Eastman Kodak Company, Rochester, N. Y. 1942. \$2.00.

The new Eastman Motion Picture Film book is a highly technical addition to the data available on motion picture films. It is designed to be a working guide and reference for professional photographers, primarily.

Covering both 35 and 16mm films, the book presents the most exhaustive analysis of Eastman films which has ever been compiled. From a discussion of emulsion characteristics through graphic and detailed specification sheets, the book assists the photographer to choose the film best suited to a particular purpose, and to make the best use of the film selected.

The main part of "Eastman Motion Picture Films For Professional Use," containing 72 pages, is divided into two principal sections and deals with the various types of negative, positive, sound recording, and duplicating films that are used in most commercial practice.

The first section is devoted to a discussion of the various film characteristics, both photographic and physical. It deals, also, with processing, the use of filters, tropical handling, etc., and it is intended as an aid to the interpretation of the specific data given for each film in the individual film specification sheets which make up the second section.

An eight-page supplement on the commercial use of 16mm Kodachrome Film is also included. This supplement covers such subjects as lighting for Kodachrome, choice of subject colors, the making of sound records for use on Kodachrome duplicates, and so forth. It also contains specification sheets giving data on the properties of Kodachrome Films, Regular and Type A.

The book is attractively printed, strip-indexed for ready reference, and bound in stiff covers with a semi-concealed Wire-O binding that allows the book to open flat to any page. The covers are laminated with Kodapak for protection against soiling, finger prints, moisture, and other marks.

DOWNTON SEA IN MAINE. Written and photographed by A. C. Shelton. Published by E. P. Dutton & Co., New York, 1942, \$3.50

Mr. Shelton is in love with the coast of Maine. He feels that the coast has been a challenge to men since the first white man landed in the Americas.

Maine has inspired Mr. Shelton and his camera. He feels the mood of the life, the ruggedness of the hills.

Each of the eighty-three photographs of nature, the temper of the sea and the peace "down east in Maine" is a story in itself. Each expresses the temper and personality of the spot photographed.

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